

SCHOLASTIC

JANUARY, 1949

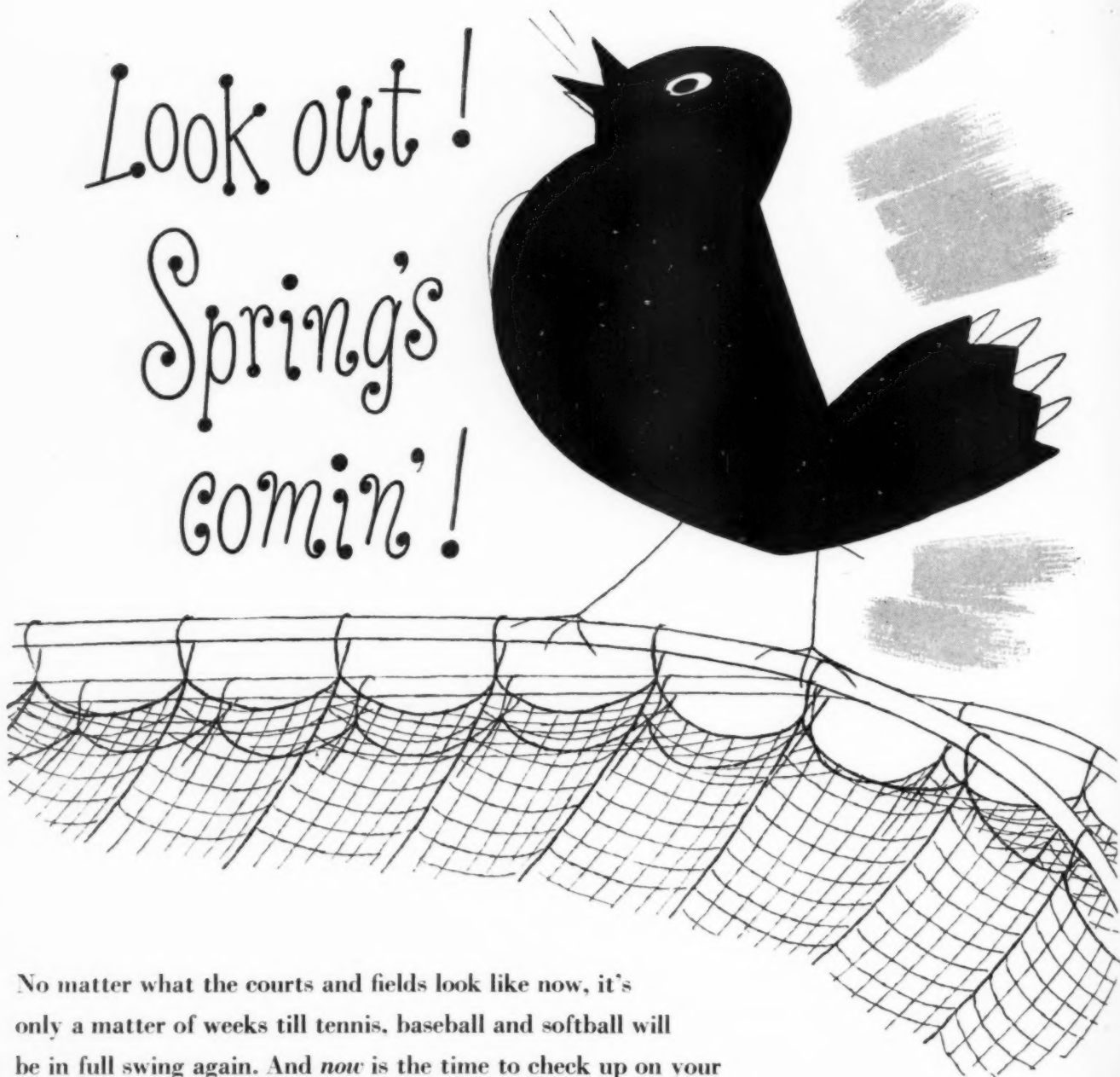
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ISSUE • 25c

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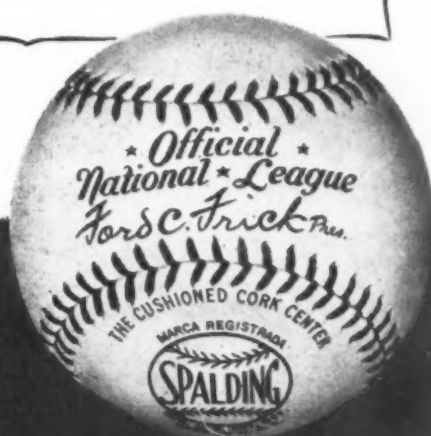
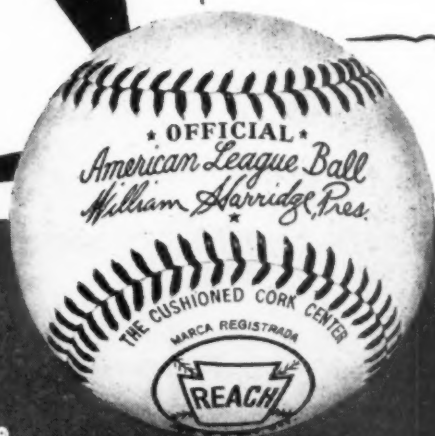
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that all others
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BABE RUTH'S record of 60 home runs in one season is the one "Standard of Comparison" by which all other home-run "strings" are judged.

THE TWINS OF THE MAJORS' record is likewise unequalled . . . as the *only* official base balls of the Big Leagues—official since the Leagues began—today they are also the standard for resiliency with which all *Minor League* base balls must conform.

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in every All-Star game . . .
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See your sporting goods dealer for Sportcraft equipment. If not available, write for name of nearest dealer.

Free rules booklets for Badminton, Deck Tennis, Shuffleboard, Table Tennis, available. Write direct to General Sportcraft or check listing in Master Coupon on page 71.

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215 FOURTH AVE., NEW YORK

SCHOLASTIC COACH

Reg. U. S. Pat. Off.

VOLUME 18 • NUMBER 5 • JANUARY

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Write Today: For complete details and the name and location of the dealer nearest you.

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LOOK for this label . . . it guarantees washable, shrink resistant baseball uniforms of superior quality.



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Random harvest

HERE it is, men, our 10th annual Building and Equipment issue; and a very tidy package it is, even if we say so ourself.

Why does *Scholastic Coach*, ostensibly a coaching magazine, devote an entire issue to building and equipment? The reason is simple. Nearly every high school and college is constantly renovating its sports plant, adding new units, or rebuilding entirely; and the school administrator is being called upon to play an increasingly larger advisory role in the planning of these units.

Since few school men have ever waved a slide rule at a plumbing fixture, they are not completely equipped to cope with the problem. That's where our special building and equipment issue comes in. It furnishes the school man with precisely the type of information he needs—sound, practical, easy-to-grasp material.

Scholastic Coach is the only magazine carrying this type of information that reaches every high school and college with a varsity sports program. And we're mighty proud of the job we're doing. That we're filling a vital need is proven every day by the many requests we receive for further information on our building and equipment articles.

We are very happy to fulfill such requests. And we also appreciate your many constructive criticisms of our other features. We'd like to hear from all you men. Tell us what you think of the magazine, how it has helped you, and what we can do to make it even more useful to you.

ACCORDING to popular legend, college professors are cynical old buggers with a low regard for football and a contempt for the boys who play it. At least that's the impression you gain from the Grade B thrillers churned out by Monogram ("Wacjchowicz, you're ineligible, and I'm glad, you hear, I'm glad!") and from all the anecd-

otes which follow the demi-tasse at football dinners.

We believe this is a foul canard, propagated by jealous chess coaches. Nearly all the professors we know are nuts about football and go out of their way to be chummy and helpful to the players on the team. And no cracks about the angling for comps, please.

What brought all this on is a letter recently shown to us by a coach acquaintance. Written by a professor on the eve of his departure from the university, it is addressed to five of his football-playing students.

The humor, sensitivity, and friendliness of the message—indicative of a wonderful rapport between the boys and the teacher—impressed us so much that we are taking the liberty of reprinting it.

Messrs. Smith, Begelman, Benvenuto, Hardy, and Machlowitz.
Greetings!

This is just a note to wish you fellows a wonderful season. Although I am no longer officially connected with the University, I am still very much interested in the men who had the questionable luck to draw me as their instructor.

In fact, I shall watch the papers more closely than ever, since you men give the matter of University football a personal interest. I say "watch the papers" because the old economy budget and my being so deep in the red probably will keep me out of the Stadium—unless I can tie up with One-Eyed Connolly or get a frankfurter concession.

It is probably old-fashioned as the dickens to add this paragraph—but I must get it out of my system. I look for you fellows to keep distinguishing yourself in the classroom by your fine attitude and sportsmanship, and I hope you draw instructors who will raise hell with you when this type of motivation is necessary.

Finally, I want to say again that I was glad to meet you men, to have you in my classes, and to count you among my friends. I might leave my last will and testament for you at this time:

To Benvenuto, I leave some pillows to sleep in class; to Hardy, I leave my library on psychoanalysis; to Begelman, I leave all my psychology notes and the seat in the classroom next to Smith; to Machlowitz, I leave Benvenuto to serve as a model student; to Smith, I leave in addition to the seat next to Begelman, all my old examination questions and outlines for quizzes.

Carry on, men, carry on!

P.S. I would like to have some individual or group pictures of you in uniform. Take some before you get old and look so terrible that nobody will want any pictures of you. I appoint Begelman to see that this is carried out.

Always heartily yours,
(Signature)

You may be interested to know that five individual pictures plus a group photo were delivered to the professor and that the boys pooled their precious complimentary tickets so that the prof could be assured of two comps to every game that season.

HAVING graduated cum laude from the M.G.M. School of Psychiatry (we saw *The Snake Pit* 29 times), we now fancy ourselves as an authority on all forms of dementia praecox; and it's made quite a difference in our life.

For one thing, we have become remarkably tolerant of all types of lunacy. We haven't killed a printer in a week. We no longer drive publicity men off with fat sticks. And we even keep cool at the mention of the stratified transitional man-for-man defense with the zone principle.

But one kind of madness continues to irritate us—the football bowl business. Each year it reaches some new height of idiocy. Each year we expect the colleges to secede from the carnival promoters. Each year we look for the business to go bankrupt.

Yet it keeps thriving like a goon in the free-throw lane.

(Concluded on page 62)



Confidence

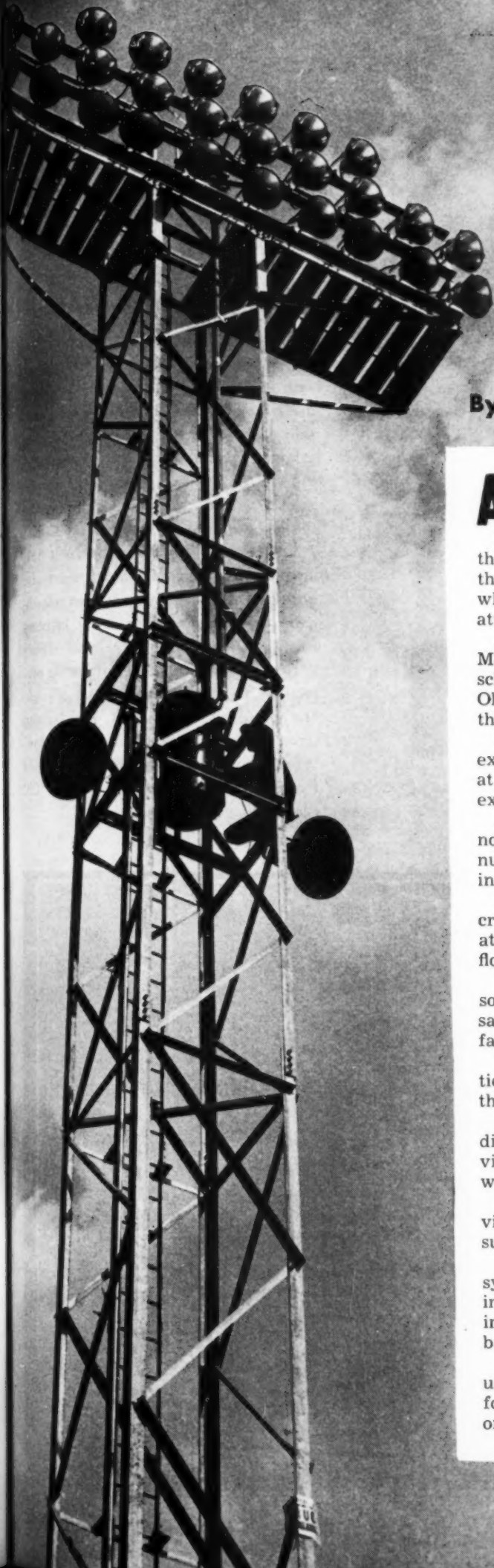
in equipment counts!

Coaches know that in any game confidence is next in importance to skill, coordination and condition. Players everywhere know the name Wilson . . . its widespread acceptance . . . its long established reputation for quality. With Wilson, they're sure they're playing with the best. That assurance and the confidence gained from playing with equipment that handles right—feels right—IS right, add to the players' confidence developed from what they're taught, from practice and from experience. Specify Wilson to give all the material assistance it's possible to obtain in sports equipment.

WILSON SPORTING GOODS CO., CHICAGO (A subsidiary of Wilson & Co., Inc.)
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IT'S **Wilson**
TODAY IN SPORTS EQUIPMENT





FOOTBALL sees the Light

By RALPH H. GARDNER

AN amazing seven-year high school football record of 63 wins, 3 ties, and 3 losses had made New Castle (Pa.) very football-conscious back in 1928.

But there were complications. Merchants complained that the Saturday afternoon games interfered with their business, and the clerks and high school students who worked Saturdays lamented their inability to attend the games.

A more serious problem related to player fatigue. Many sports commentators have observed that high school football in Western Pennsylvania and Eastern Ohio is more strenuous and more keenly competitive than in any other section of the country.

Be that as it may, we found that our players became extremely fatigued after early-season games and on at least two occasions several boys had collapsed from exhaustion in the dressing rooms.

Apparently the extreme heat of the early fall afternoons sapped the strength of the players, producing numerous injuries and excessive time-outs, especially in the latter stages of the game.

In the winter of 1928, a circular advertisement crossed the desk of the athletic department. This literature extolled the virtues of night football under floodlights.

The idea had a definite appeal. Not only would it solve the first two difficulties but it would, at the same time, resolve the more serious problem of player fatigue and substantially increase the revenue.

This radical innovation seemed so completely practical that we proceeded to explore its possibilities as thoroughly as the available information would permit.

Next we held two demonstrations, using two slightly different types of floodlights. These experiments convinced us that football under artificial illumination was practicable.

Armed with this data, we had little difficulty convincing our Board of Education to purchase and install such a system.

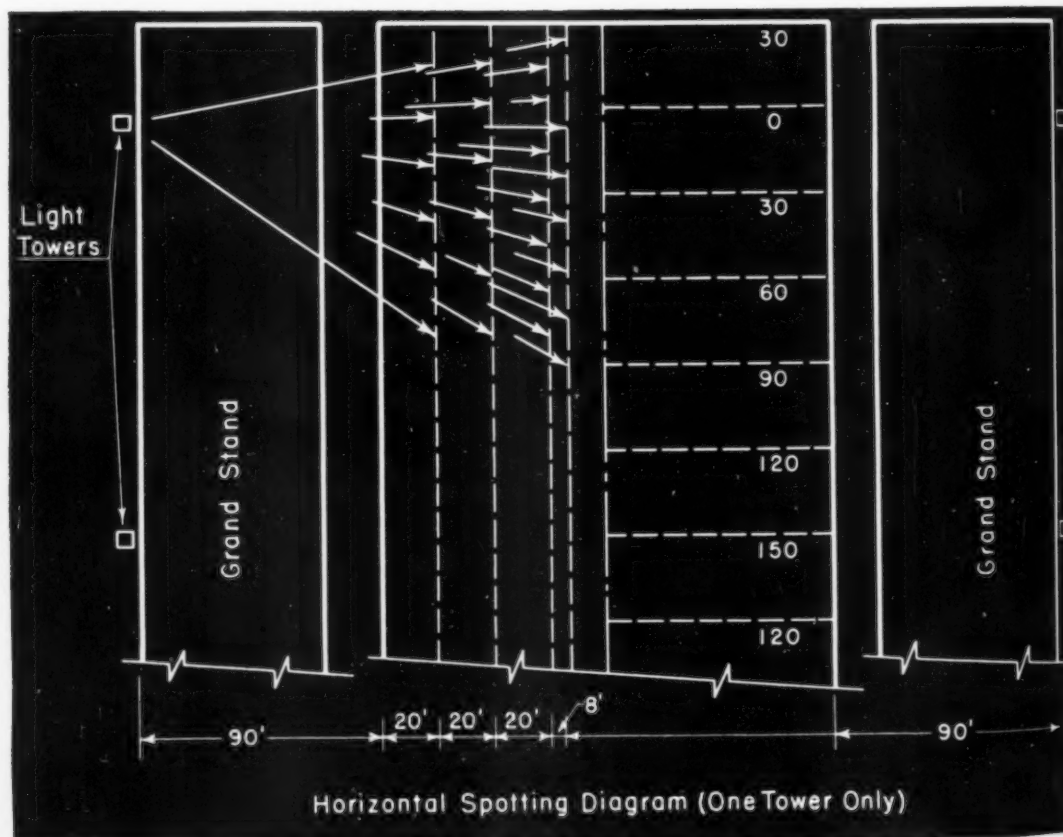
We opened the 1929 season with our own lighting system, becoming, so far as we know, the first school in the U.S. to do so. Night football had become a most interesting reality in this hotbed of high school football.

We had arranged to play only our first five games under the lights. But since one of our opponents was forbidden to play the night game, we actually played only four games.



NIGHT AND DAY

THE remarkable New Castle flood-lighting plant inundates the stadium with 234,000 watts of light. The floods are mounted on six poles, three on each side of the field behind the stands. The original concrete stands are shown at the top left, while the new ultra modern steel grandstand appears below it. The seating capacity of each is 6,000 and 7,500, respectively, with each unit having its own press box. Each stand also boasts its own entrance, its own refreshment counter, and its own lavatory facilities. The playing field is completely enclosed by a wire fence, affording protection to both players and officials. The amazing efficacy of the lighting units is illustrated immediately below. Westinghouse installed the lights, while the Pittsburgh-Des Moines Steel Co. erected the steel grandstand.



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Each drew a capacity crowd.

Delegations from colleges and other high schools came to see with their own eyes just what this night football was like. Geneva College and Duquesne University were so impressed that they immediately installed similar systems and played the latter part of their schedules under the lights that same season. In fact, Geneva is still using its original system, sharing it with a local high school (Beaver Falls).

Later we increased the number of night games, until New Castle is now playing all its games at night. As a result of night football, nearly all our high schools can now open their seasons at least two weeks earlier. This permits an earlier closing of the season and an escape from the uncertain late November weather.

Insofar as revenue is concerned, night football produced a near miracle. The receipts were practically doubled. This is especially remarkable when you remember that football interest and support had already been built to respectable proportions because of our successful record during the preceding seven years.

Other schools, which later installed lights, reported even greater percentage increases.

In our first four games under lights, our receipts ranged from a low of \$3,300 to a high of \$7,200. This latter figure was attributable in part to an increase in the admission price. With this one exception, we have never increased the admission price.

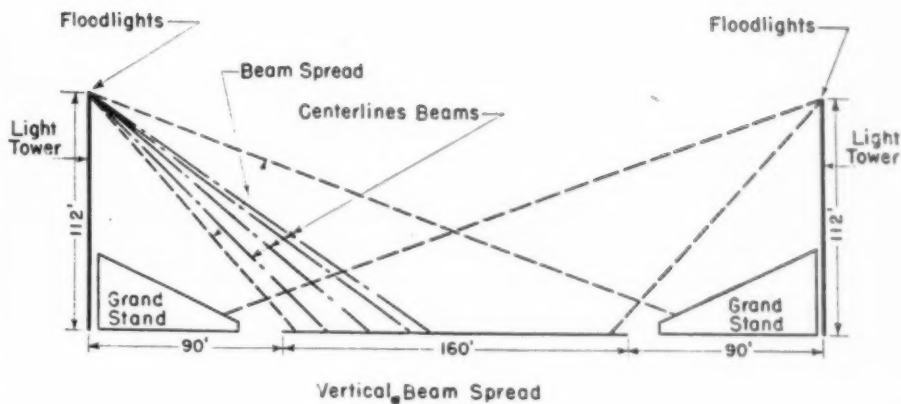
A policy of offering low-priced season tickets to high school and grade pupils, together with limited seating facilities of about 9,500, kept our receipts from being much larger.

With the situation clearly calling for an expansion of facilities, New Castle went to work on its stadium. During the past summer, it installed new steel stands with a seating capacity of about 7,500. These stands, erected by the Pittsburgh-Des Moines Steel Co., are 120 yards long and 30 rows deep.

The new steel unit, together with the original concrete stands, gives the plant a seating capacity of 15,000, plus standing room for several thousand more.

Each seating section (west, east, and north) is complete in itself and is separated from the others by wire fences. Each section has its own entrance, its own refreshment stands, and its own toilet facilities.

The playing field is completely enclosed by a wire fence affording protection to both players and officials. No spectators are permitted to



stand along the sidelines or go from one section to another.

At the conclusion of the game, the gates are thrown open permitting easy and quick egress.

Commodious press boxes on each side of the stadium provide ample facilities for press, radio, and public announcers. A canopy extends out from the press box in the new steel stands. It covers a few hundred seats and can be easily extended at reasonable cost.

A concourse 120 yards long and 20 feet wide makes an ideal running track and provides ingress to the center sections. Entrance to the stands is in front from the running track, which prevents pushing and shoving and provides many additional seats due to the absence of ramps. All seats in the steel stands are reserved.

The 6,000 concrete stand seats are also reserved—exclusively for the young people of the district. During the past season, 3,500 student season books and 2,700 adult reserved season tickets were sold in advance.

The student books sold for \$1.50 and the adult tickets for \$7. This was for seven home games and included federal tax. The few seats under the canopy sold for \$12 (season).

Individual game prices were 35¢ for students; 60¢ general admission; \$1 for reserved seats; and \$1.75 for reserved seats beneath the canopy.

Many years ago, in an effort to solve the juvenile problem, a kid gate was opened and some 750 bleacher seats reserved for the youngsters. Each kid was supposed to dig up a thin dime for his seat, but instructions were to let them in for anything, even a penny, so long as they paid something.

That solved the kid problem. The benefits were much above expectation. The kids fell in love with the game via the kid gate, and became the players of the future.

The original lighting system cost just over \$4,000 and gave satisfac-

tory service for 19 years.

The new lighting system, installed last fall, embraces six galvanized steel towers, four feet square from top to bottom. Furnished by The Bethlehem Steel Co., they extend 100 feet above the playing field and are located behind the stands, three on each side of the stadium, on a line with the two goal lines and the 50-yard line.

The lighting units, furnished by Westinghouse, are the closed type with a controlled beam. There are 156 1500-watt units, mounted on cross-bars, 26 to a tower. They flood the playing field with 234,000 watts of electric light.

The candle power on the field is between 45 and 50, and the cost per month under a contract with The Penn Power Co. comes to less than \$200.

The cost of the new lighting system, including all extras, was under \$35,000. The Bruce Merrilees Co. of New Castle was the low bidder and did a most excellent job. Other installations of theirs range from \$15,000 to \$30,000.

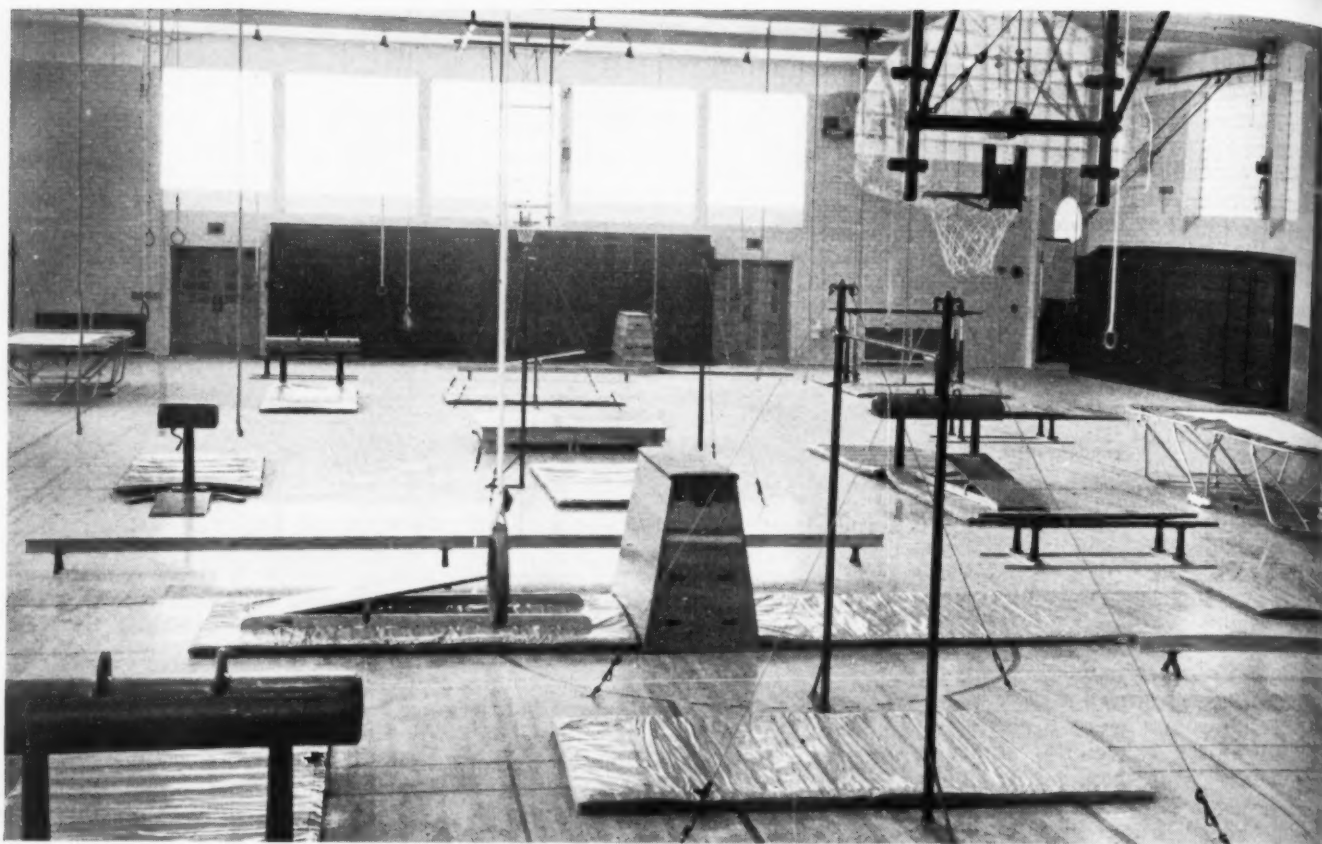
The financial picture of New Castle's 20 years of night football is highly impressive. The football receipts support the entire athletic program except basketball, which is self-supporting. This includes the salaries of all coaches and administrative officials, as well as all equipment and game expenses.

The concrete stands were built through surplus funds, and \$20,000 was transferred from the reserve athletic fund as part payment on the building program completed last summer. All funds are controlled by the Board of Education.

Today nearly all the high schools in Western Pennsylvania and Eastern Ohio play their entire 10-game schedules under the lights. Here are some figures which should be of interest to coaches:

In 1947, over 80,000 spectators turned out for New Castle's eight home games, producing over \$50,000

(Continued on page 54)



Utica's Dream Gym

SCHOLASTIC COACH is justly proud of presenting the first nationally featured article on the magnificently equipped new physical education plant at Utica (N. Y.) Free Academy. This article was made possible only through the splendid cooperation of several people and manufacturers.

William L. Boyle, supervisor, Dept. of Physical Education, Utica Public Schools.

Walter Frank, the architect.

Fred Collins, head, Dept. of Physical Education, Utica Free Academy.

Len Wilbur, sports editor.

Cornelia Breen, senior girls' instructor, Utica Free Academy.

Clifford A. Stanton, principal, Utica Free Academy.

Dr. Andrew J. Burdick, superintendent, Utica Public Schools.

Dr. Gerald A. Natiella, president, Board of Education.

Fred Medart Products, Inc., which supplied all gym apparatus except partitions and mats.

Horn Bros. Co., which supplied the folding partitions.

Petersen & Co., which supplied the mats.

FEBRUARY 1, 1949 will inaugurate a new era in Utica, New York, physical education history. On that day, the Utica Free Academy will launch the first physical education program ever offered to the high school boys and girls of the community.

What's more, this program will be housed in the finest, most modern, and most complete high school physical education plant in the state—if not in the entire country.

Nothing has been omitted. Every facility conducive to the soundest type of physical education development is incorporated in the new two-story gymnasium building.

Seven long years. That's what it took for this dream to materialize. Dynamic little Dave Folds, Jr., a West Winfield boy, started the ball rolling in 1940 by getting more than 9,000 people to sign petitions urging a gym for the Utica Free Academy.

These were sent to the State Department of Education. Then came a meeting at which the Gym-for-UFA Committee was organized with Len Wilbur, the sports editor of the *Utica Observer-Dispatch*, as chairman.

That was just the beginning, the prelude to the spade work—the enthusiastic student speakers who

whipped around the city addressing more than 150 civic organizations; the speech choir; the radio club and teachers; the splendid cooperation from the newspapers and Station WIBX; the tremendous efforts of the board of education and the city administration; the assistance of the architects.

Then there were monthly committee meetings with coaches, PTA officials, state and city officials—lending more fuel to the fire of mounting public opinion. . . .

Until finally March 20, 1941 rolled around, when the seniors and juniors gathered in assembly to celebrate the granting of \$300,000 for the new gym.

Excavation on the new gym started on September 8, 1941. Then came the big heartache—the war and the battle for steel. With most of the materials on the critical list, the work had to be halted. Exactly five years elapsed before it could be

TOP PICTURE: The comprehensive scope of the equipment is vividly depicted in this photo, which was set up exclusively for *Scholastic Coach*. The sole purpose of the picture was to show the range and modernity of the equipment. In actual operation, the apparatus will be laid out more scientifically.

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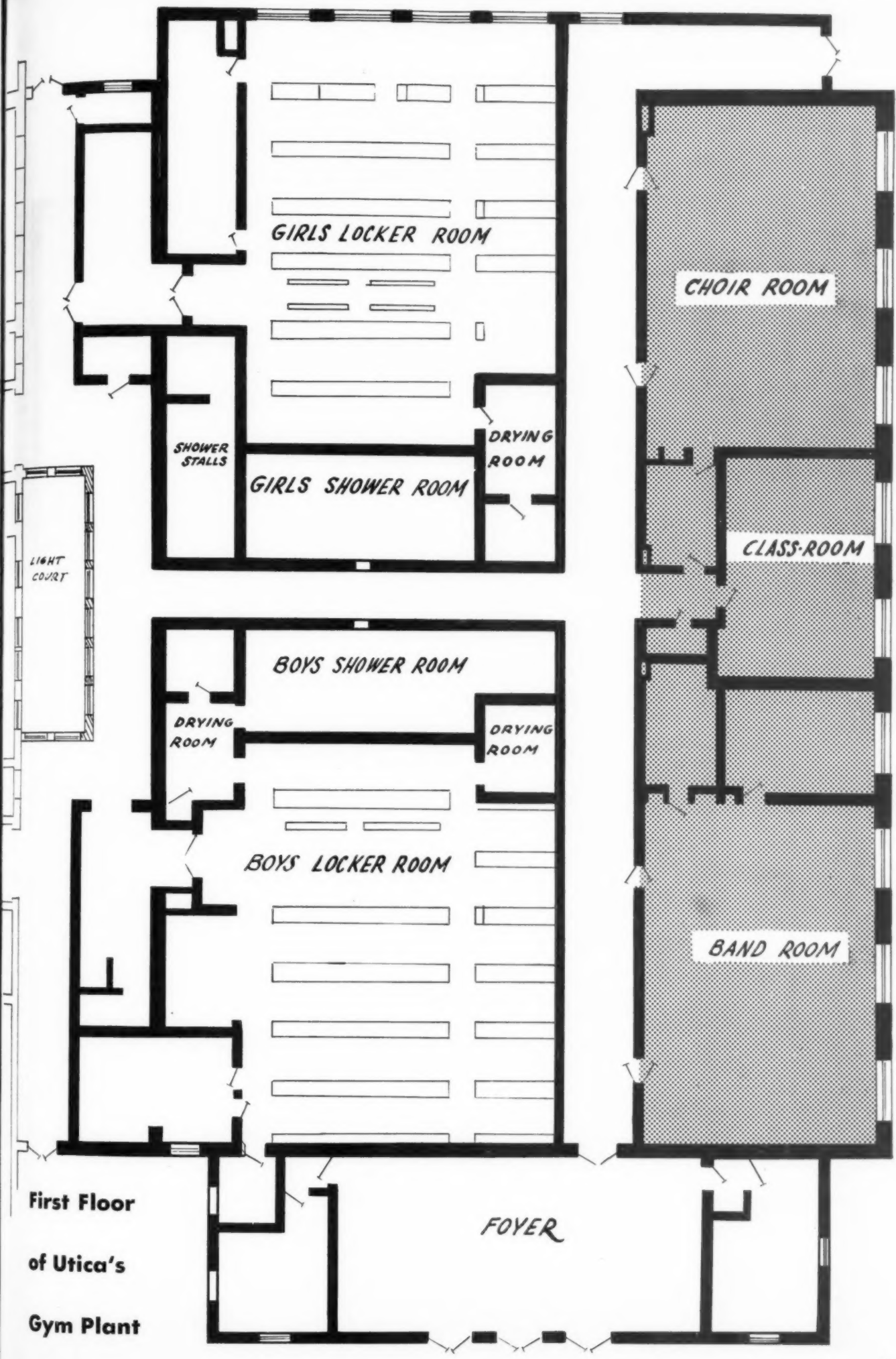
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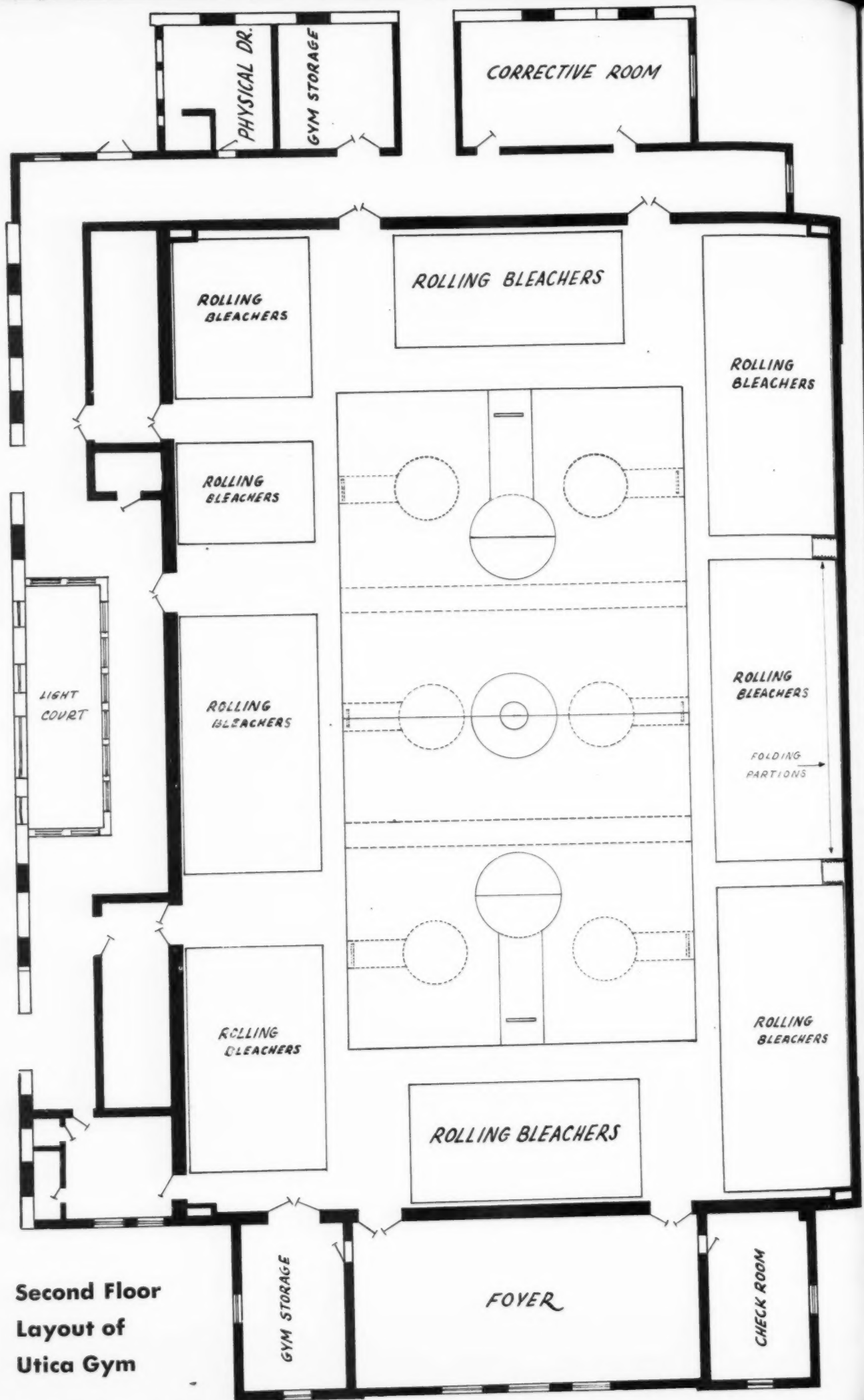
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**First Floor
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Utica Gym**

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picked up again and completed.

The planning of the construction was no architectural picnic. Located in the heart of the city, in a dense residential area with limited building space, the gymnasium had to be constructed so as to provide an all-year-round indoor program for some 2,300 boys and girls.

Absolutely no outdoor play area was available near the school, and the needs of the entire community had to be borne in mind, since the idea was sold to the community on the promise that the gym would be available for all worthy community functions.

With this in mind, the architects had to plan a floor area that would furnish both the maximum activity space and the maximum seating capacity.

To provide for the large pupil load, the gym floor was subdivided into three separate gyms through electrically controlled folding doors. Thus, three gym classes could be conducted simultaneously.

This doesn't mean that the new building is just a hollow shell with one main gym floor. It is one of the most complete physical education plants extant. It has three floors crammed with rooms full of the latest equipment.

The gym itself, located on the second floor, is a monstrous activity area larger than the gym floors of Colgate or Cornell.

Three basketball games can be played at one time on full-sized courts by utilizing the automatic sliding partitions. For mass demonstrations, games, and other functions, the partitions can be folded back to the walls and folding bleachers let down, to permit some 2,200 people to watch the activity.

The massive room is sound-proofed and fully tested for acoustics. A built-in sound system is another feature.

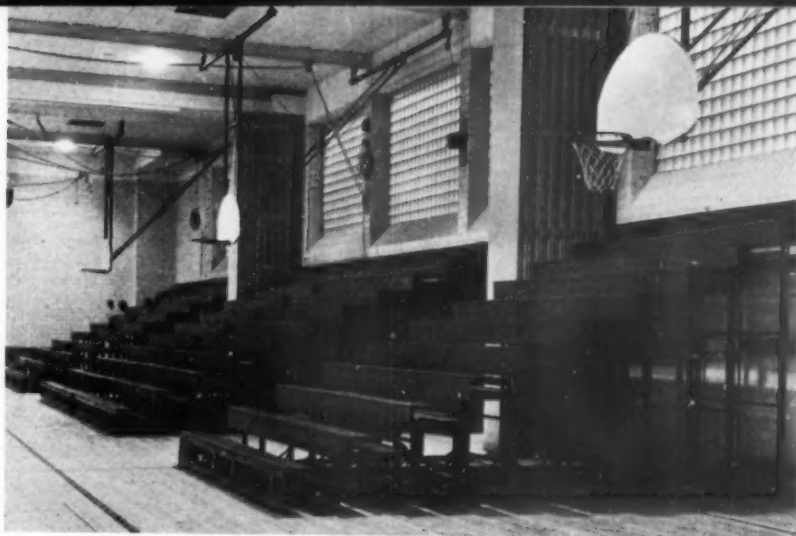
Also on the second floor, off the gym, are sizeable rooms for coach offices, and a corrective room for the physically handicapped.

Crowds attending the games will enter the gym proper from doors on the south end of the building and go up stairs to a lobby, complete with ticket booths.

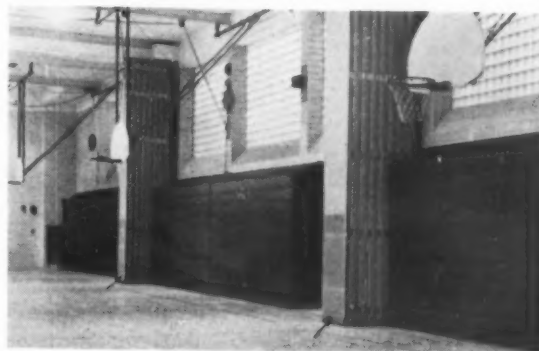
On the ground floor will be the answer to a musical director's dream. Two large rooms arranged with built-up semi-circular platforms will house practicing bands and choirs. Special racks are in the walls for storing music, and large separate rooms adjoin each of the music rooms for the storage of instruments and choir robes.

The basement is a fully equipped

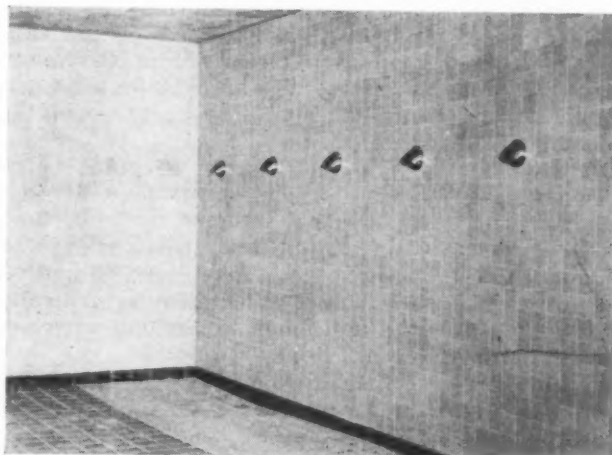
(Continued on page 45)



Folding bleachers opened for game on main center court.



Note strategic location of folding partitions.



Modern shower room featuring quarry tile floor.



Locker arrangement—eight box to one large.



AMONG men who know equipment best—the sporting goods salesmen and representatives of reconditioning firms—there is a nearly unanimous opinion that our schools are doing a poor job of caring for their equipment.

Neglect and disorganization reign supreme. No one seems willing or able to shoulder the responsibility.

A shoe, for example, will not oil itself. A lot of time and messy labor is involved. So the coach will pass it on to an untrained and unconcerned student manager—who knows little or nothing about *when* to oil the shoe, *what* oil to use, and *how* to apply it.

No set rule will govern the oiling of shoes. For instance, a team playing on a dry and dusty practice field should have their shoes oiled at least twice a week. The oil must be applied lightly and worked in well.

Just plain neat's-foot oil will not do. It is too stocky and only gathers more dirt and dust. But when combined with a driving agent such as mineral oil, it becomes a penetrating oil and does same good.

Additional reasons for the neglect of athletic equipment are:

1. The coach is preoccupied. This is justified in many cases. After teaching several classes a day and conducting a two-hour practice session, he feels like heading for home and not the equipment room.

2. The coach has a false sense of pride. He is **THE** coach: director of practice sessions, a master of strategy, the "x and o" king of the blackboard, above the muss and fuss of the equipment room. He forgets he

cannot fool the boys. They thrive on organization, clean equipment, and personal consideration.

3. The coach is lazy. It takes a little extra effort and time to do justice to the care of equipment.

Before presenting some practical suggestions on the care of equipment, it may be wise to back up a bit and consider, first, the purchase of the material.

The initial factor, of course, is the matter of price. But several other factors are equally as important. They are: quality, specifications and construction, color, and quantity. The coach must also be critically aware of when to buy and where to buy.

Speaking of quality, is it practical for the coach to know the detailed properties of fabrics? Yes, if he is to buy wisely. For example, the coach should know that the outstanding property of nylon is water-resistance.

This means that he can have a football pants that will take a mud-and-water beating and still look good after cleaning.

Now consider the fabric in basketball trunks. The player sweats profusely, and a nylon trunk won't absorb moisture as well as a tuckletwill or cotton pants. The sweat will run down the seams into the crotch and produce chafing.

Both these illustrations go back to the basic property, water-resistance, of the nylon fiber.

The coach should also know the following facts about each fabric: durability, attractiveness, relative cost, ability to hold shape, method

of cleaning, and the need for moth protection.

The specifications and construction of equipment are quite similar. The former is taken care of by the manufacturer, while the latter is set forth by the rules-makers. The rules-book is precisely definitive and the coach can feel sure he is getting an official item if it is marked "official."

On items such as shoulder pads, the specifications are general. This is as it should be, since it makes for industrial ingenuity. A better pad is the result.

The details left out of the specifications may be considered construction factors. The cantilever arch in the shoulder pad is a construction factor. The binding of a baseball glove is a construction factor.

These must be given attention by the coach. For example, there are baseball gloves on which the rawhide strips forming the webbing, tie into the binding of the thumb and first finger. This type of construction will not prove as durable as the type where the webbing passes through reinforced eyelets in the body of those two fingers.

Color fastness is a headache to coaches. There is considerable validity to the following four suppositions:

1. Color fastness depends upon the properties of the dyestuffs used, and the method employed in combining and applying them. This is all done before the coach sees the fabric.

2. There is no known process which can positively guarantee that a fabric dyed a certain color will have a true and even, let alone a completely fast, color. Until science overcomes this disturbing fact, the coach cannot expect too much in matching colors and color fastness.

3. Wool, silks, and rayon, when dyed, will approach color fastness more closely than cotton fabrics. But any fabric will fade after repeated washings or cleanings.

4. There is no way for the manufacturer to tell what kind of laundering or cleaning process his fabric will be subjected to. The coach cannot expect a red jersey to be more color fast than a royal blue jersey. Nothing that concrete may be claimed as yet.

How much to buy will be governed by the budget, size of squad, and needs. The main caution to be exercised is on special orders. The word has a dual meaning. One is the special order for the 6-5, 200-

(Continued on page 64)

When You Buy **BIKE** You're Sure of



BIKE No. 10 SUPPORTER

Flexible form-fit knitted cotton and rayon pouch. Full lateral waistband stretch at seam. Edges selvaged to minimize rolling and curling. 3" waistband. 1 1/4" leg bands with inlaid rubber.



BIKE No. 88 ANKLET

Extra soft, pliable and lightweight. No seams or welts to irritate foot or ankle. Strain points reinforced with extra covered rubber. Specially finished edges insure long wear.



BIKE No. B-6 SUPPORTER

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BIKE TRAINERS' TAPE

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BIKE No. 59 SWIM SUPPORTER

For light exercise, everyday wear. 1 1/4" waistband, 1 1/4" leg bands. Specially constructed pouch makes it particularly suitable for swimming. Attachment of pouch to waistband allows full lateral stretch.



BIKE "STRAP*" SUPPORTER

Woven all-elastic pouch. Crotch construction gives added comfort. 1 1/4" leg bands; 3" waistband. Joints reinforced so rubber end threads won't pull out!



BIKE No. 99 KNEE CAP

Specially finished top and bottom for extra-long wear. No seams, eliminates separation of rubber and fabric. Select cotton and rayon yarn and first grade covered rubber. Soft, comfortable, effective.



BIKE No. 86 SUPPORTER

Wide 6" waistband for extra support. One piece woven all-elastic pouch 6" wide. Made of high-quality long-stretch elastic throughout. 1 1/4" leg straps.

Reg. U. S. Pat. Off.



Visual Aids in Coaching

CONSIDERING the fact that visual aids have been accepted in virtually every subject field within the broad educational curriculum, it is surprising to find how few physical educators and coaches have availed themselves fully of this excellent teaching medium.

Yet if visual education is justified in any subject field, that field is sports. No other field lends itself as well to the use of demonstration as a teaching technique, and few other fields possess such a wealth of expert demonstrators.

It is true that live demonstration is sometimes preferable to that on film, but few schools are fortunate enough to have an expert demonstrator. The camera, in addition to furnishing expert demonstrators, can, with such tricks as slow motion, stop action, and multi-angled shots, focus attention on the paramount details more successfully than even a live demonstrator.

Perhaps the greatest obstacles to the use of these aids have been the lack of equipment and the absence of adequate facilities for the use of the equipment. Few schools, even now, have projection rooms which are conveniently located near the gymnasium and athletic fields.

This inconvenient location, however, can now be overcome either by daylight projectors or by the use

of an easily constructed "shadow box." Modern portable equipment puts the services of the greatest athletes in America within easy reach of every educator.

Certain conditions and facilities are required for the use of visual equipment, but, as indicated above, these requirements have been considerably simplified within the past few years. Even with this latest equipment, however, it is desirable to have at least a semi-darkened room.

Since all types of visual equipment are electrically operated, electrical outlets are "musts." Portable screens and portable projectors are, with few exceptions, available.

In addition to the physical requirements, certain other procedures have been recommended for the best teaching results. In general, these procedures break down into three steps — preparation, viewing, and follow-up.

It is an accepted fact that better results can be obtained from a learning situation when the learner has been previously prepared or briefed on the points to be observed. Therefore, a well-planned previewing pro-

cedure should be followed in which the instructor points out the particular skills he hopes to get across.

The second step, that of viewing, varies according to the equipment used. The sound motion picture, of course, usually carries an explanatory commentary which treats the subject quite adequately. In some cases, however, the instructor, to emphasize certain points, may turn off the sound and supply the commentary himself.

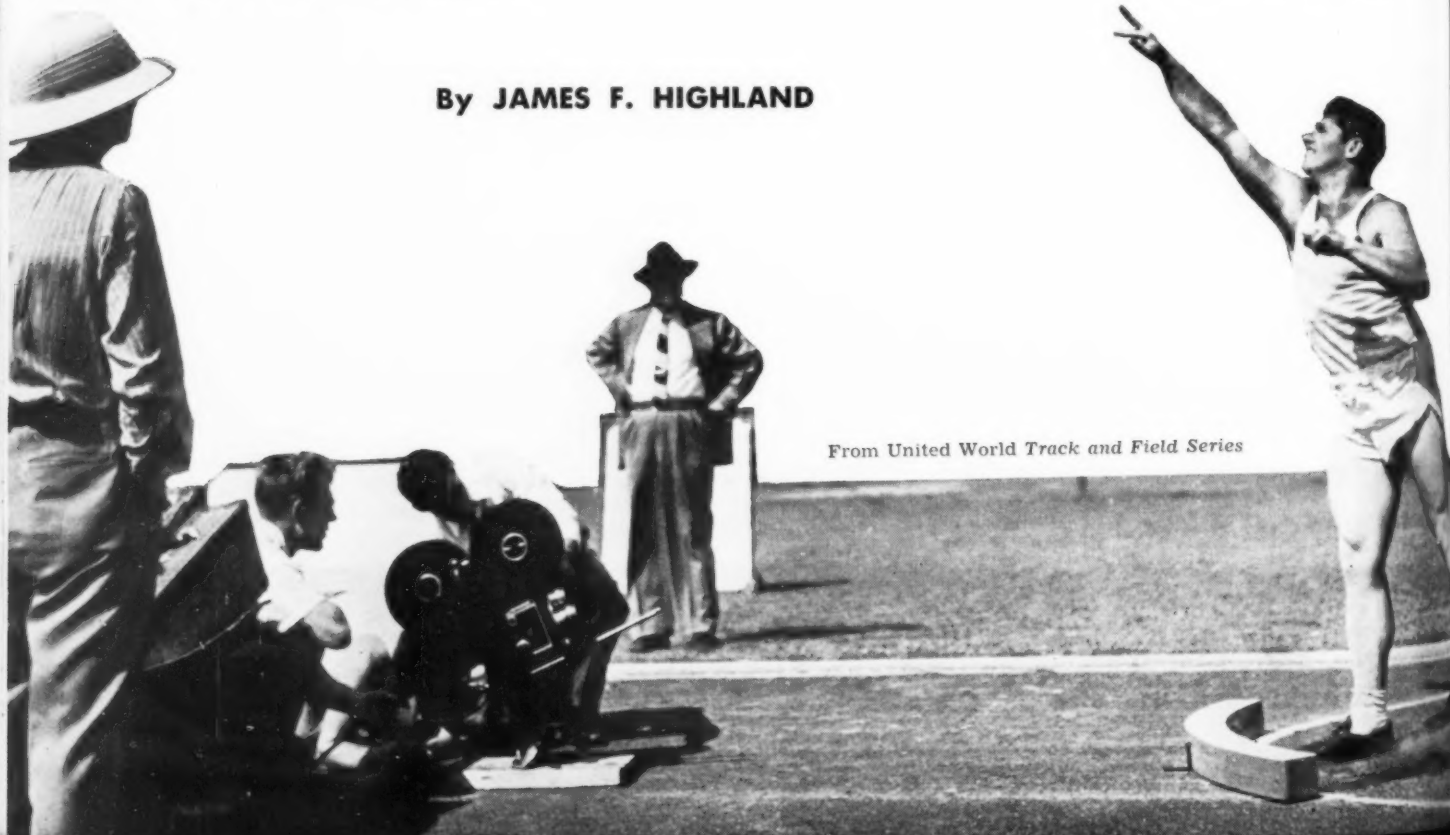
This same procedure, with instructor commentary, is usually wise when a silent film is used. The screened titles are frequently inadequate and need this type of supplement. Considerable thought and planning should go into the explanation so that it will be well-timed and will achieve the desired ends.

Film-strips, slides, and other mediums present still different situations. In these cases, the still picture may be flashed on the screen and kept there for a considerable length of time. It is usually wise, here, to explain the picture and emphasize certain points, then invite discussion and questions from the group. This may be carried on as long as the instructor feels it is profitable.

The follow-up, which is the final step, consists of discussion and sometimes testing to determine the effect. (Concluded on page 52)

By JAMES F. HIGHLAND

From United World Track and Field Series



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DEALER: "You bet it's Skinner fabric... look at the label."

COACH: "That's all I wanted to know."

• Yes... time and again, the talk ends and the sale is clinched the moment a coach or player spots that Skinner label. They've learned from experience-in-action that athletic uniforms and sports garments made with Skinner Fabrics always look and perform better.

The reason is simple enough. No

manufacturer would use such famous Skinner Fabrics as Tackle Twill,* Sunbak,* Combat Cloth* or 8217* unless he were bent on producing the finest-looking, most expertly-tailored and ruggedly-serviceable garments that can be made!

SEE YOU AT THE SHOW!

You're cordially invited to the Skinner showing of the newest in quality sports fabrics.

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THAT ALWAYS STAR IN
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Rayon satin face, cotton back
... all vat dyed.

Skinner Combat Cloth*

All-nylon twill... fast colors.

Skinner Tackle Twill*

A rayon and cotton fabric, vat
dyed... water repellent.

Skinner Sunbak*

Rayon satin face... 100% wool
back. Dry cleans beautifully.

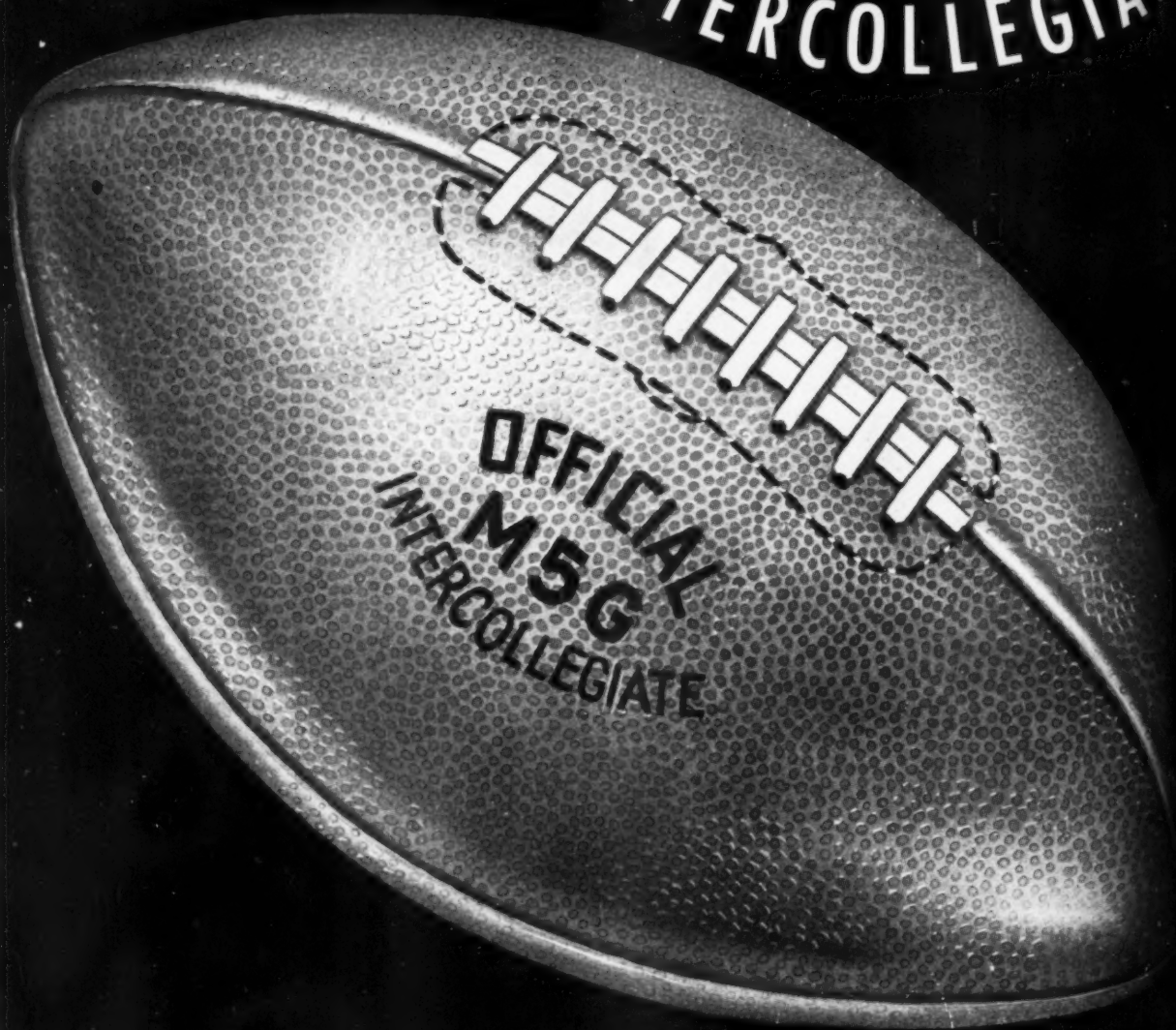
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All engineered for *PERFECTION* in



Developed during thousands of hours of actual play on secret playing fields!

Unidentified by name or number, the sensational new MacGregor Goldsmith Official MSG Intercollegiate Football has proven its worth in **BETTER PUNTING—BETTER PASSING—BETTER BALL HANDLING** through thousands of hours of experimental work on secret playing fields.

MacGregor Goldsmith craftsmen engineered and tested it until they were sure it would top all others in greater perfection in play on the gridiron. Principles of aerodynamics used in developing this new ball have paid off!

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accuracy in ball handling, kicking and passing. The leather in the M5G Intercollegiate is scientifically tanned and waterproofed by a newly developed process. From every standpoint, the MacGregor Goldsmith Official M5G Intercollegiate Football is truly a piece of precision equipment, designed to give to the game the utmost in passing efficiency; the utmost in ball handling and the highest degree of kicking proficiency. Throw a new M5G on the field and ask your boys what they think of it.

MACGREGOR GOLDSMITH Inc.



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NEW EQUIPMENT

As a service to its readers, *Scholastic Coach* offers this periodic round-up of new sports equipment items. For further information write to: Scholastic Coach, New Equipment Dept., 7 East 12 St., New York 3, N. Y.



• **PLASTIC FACE GUARD.** Made of strong, optical-grade, clear plastic, this face protector weighs but a few ounces and gives excellent protection for all sports where the face is endangered. Produced by the Davis-Weaver Co., it is highly recommended both for athletes with sensitive features and for athletes with existing facial injuries.

• **FENCING MASK.** The latest addition to the Castello Fencing Equipment Co. line features a heavy steel mesh beautifully finished with chrome plating to give a more permanent rust-resistant protector. To prevent glare, the inside of the mask is coated with a dull, black finish which allows the fencer to compete without undue eye strain.



• **FENCING FOILS,** equipped with plastic-coated blades and handles completely enclosed in plastic casing, are now being manufactured by the Castello Fencing Equipment Co. Prevents rust and deterioration, comes in new individual carrying cases made of lightweight cloth.



• **JUNIOR GOLF CLUBS.** Suitable for boys and girls, the Hillerich & Bradsby Co. set consists of one wood, three irons, and a junior golf bag. For right hand only. Not a "toy." Outfit is of typical Grand Slam fine quality and design, differs from regular clubs only in size.



• **DOWN INDICATOR.** Made of masonite and aluminum, Schall's Down Indicator features a bronze bearing which permits upper part to spin around, thus permitting every spectator to see the down. Lightweight, strong, easy to handle. Black numerals on a white field. Staff may be disengaged.

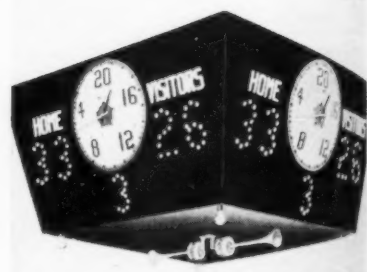


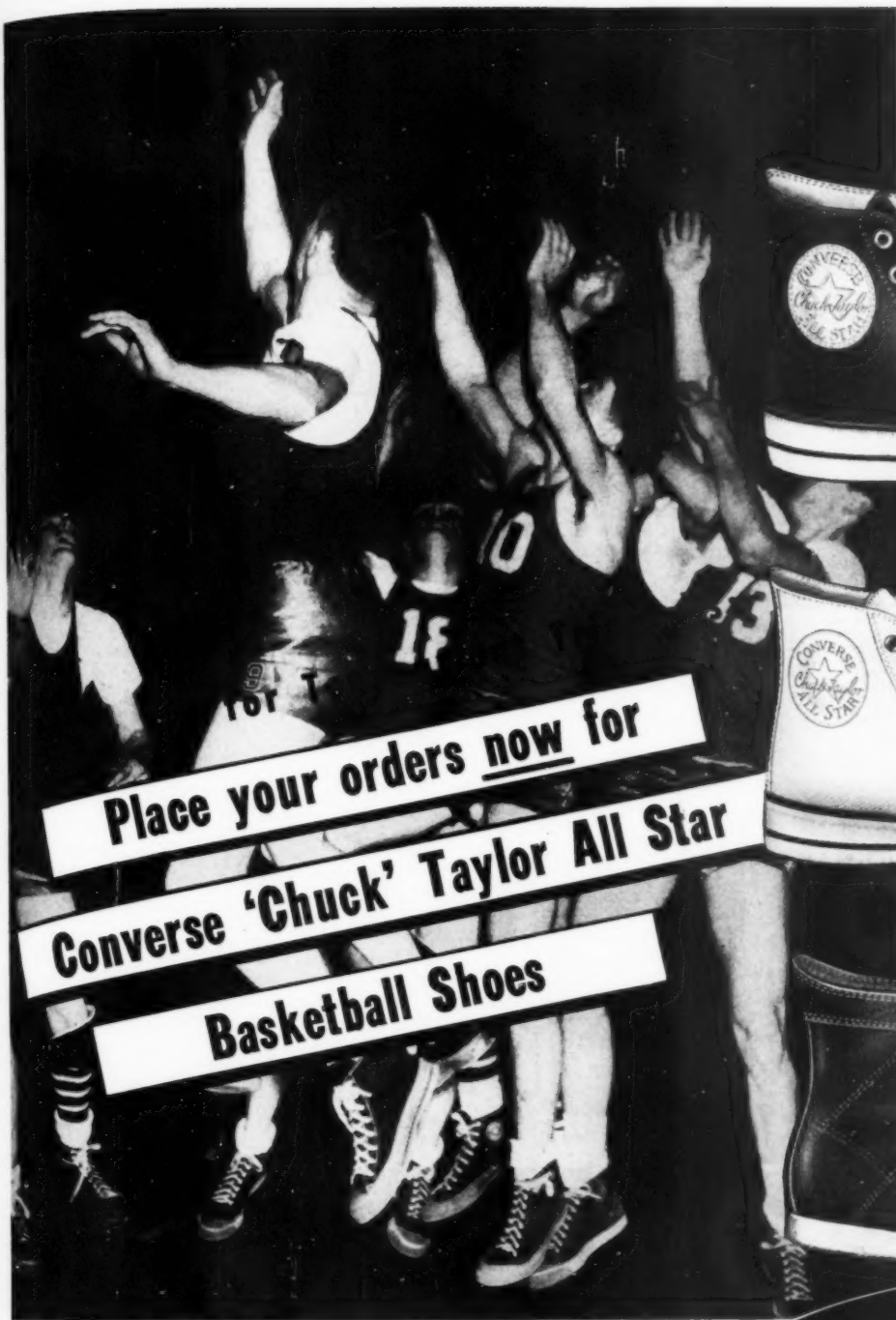
• **PITCHER'S PLATE.** Produced by the Seamless Rubber Co., this rubber plate has 4 sides. Hollow center may be filled and placed in ground, eliminating use of spikes. When a surface becomes worn, plate is rotated so that new surface is presented. Actually 4 plates in 1.



• **OFFICIAL SOFTBALL.** The new Voit ball is cord wound around a prime pressed kapok center. Molded white rubber cover is washable, maintains high visibility, will not rip, tear or loosen until center is completely soft. Built for a whole season's play on any surface in any weather.

• **FOUR-SIDED BASKETBALL SCOREBOARD.** Made for large gyms and field houses, this Naden & Sons Electric Scoreboard Co. device features an 8' face with a 30" translucent clock dial. Scoring numerals are formed instantly by red bull's-eyes. Mechanisms are entirely synchronized.





Select your Tournament
ALL STARS from these
3 smart styles



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Basketball Shoes

TOURNAMENT PLAY demands the best — in skill, in strategy, in equipment. For those crucial, peak-of-the-season contests, equip your players with *new* All Stars. Let 'em step out onto the court with the confidence that comes from wearing America's No. 1 basketball shoes — the shoes specified by *more coaches*, worn by *more players*, than any other basketball shoes made. Place your All Star tournament orders today with your favorite Converse distributor!

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NEW EQUIPMENT

As a service to its readers, Scholastic Coach offers this periodic round-up of new sports equipment items. For further information write to: Scholastic Coach, New Equipment Dept., 7 East 12 St., New York 3, N. Y.



• **HELMET TRUNK.** Designed by the Continental Trunk Co., this multi-purpose trunk is large enough to hold 12 helmets yet small enough to easily move by car, train, or plane. Measures 36 x 30 x 12 and comes in school colors.

• **WASHABLE BASEBALL UNIFORM.** A regular wool flannel suit that can be washed as easily as T shirts—right in washtub. Will not shrink or deteriorate for life of garment, will hold true color. Produced by Oliver Bros.

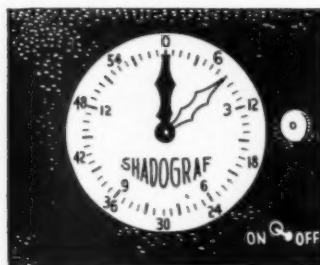
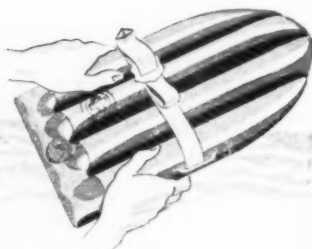


• **LAMINATED LACROSSE STICK.** Made by molding thin layers of choice veneers of wood under heat and pressure using waterproof glue, then machine and careful hand shaping bring final product—evenly balanced, light enough in weight, yet strong under normal playing conditions. Manufactured by Eddie Leonard Sporting Goods Co.

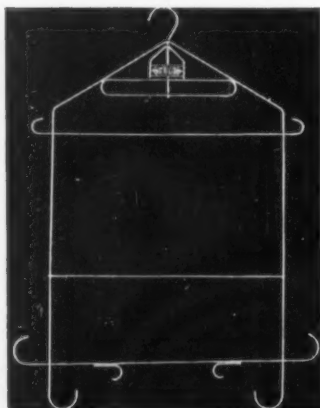


• **BALL PUMP.** This Molex Products device features a built-in gauge and is made of aluminum. Completely rust-resisting, it makes for easy pumping and registers pressure from 2 to 13 lbs. Pump rod is marked with numerals to indicate air pressure in item being inflated. Precise spring permits gauge to register correct air pressure.

• **FLUTTER BOARD.** Made of inflatable latex rubber, "Swim Buoy" is equipped with adjustable belt, is lightweight, non-hazardous, easily carried. Invaluable for practicing or teaching leg or arm strokes. Produced by Ocean Pool Supply Co., it can also be used as life preserver, beach cushion, canoe seat, or car pillow.

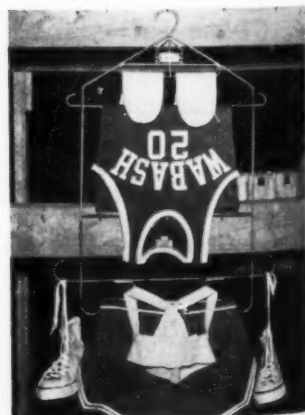


• **TIME-OUT TIMER.** An addition to Shadograp Scorekeeper helps eliminate possibilities of error during time-outs. Features a 4 1/2" clock-like dial marked plainly in min. and sec., with a red sweep second hand and a black minute hand. Will run up to 15 min. Being offered as single unit or as part of control board of Shadograp.



• **UNIFORM HANGER.** The American Playground Device Co.'s new extra heavy duty uniform hanger provides each player with individual hanging facilities upon which to drape sweaty gear for faster and more thorough drying.

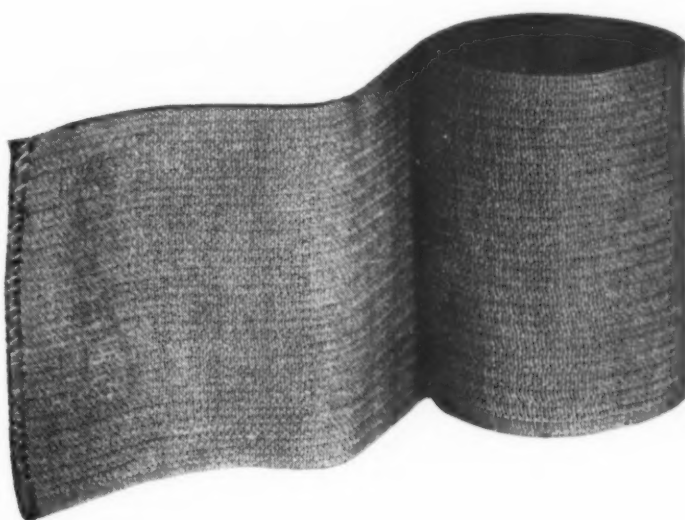
Ruggedly built of heavy, cold rolled steel rod, hot dipped in tin, hanger is rust proof, impervious to corrosive action of perspiration, and will last a life-time. Each hanger is equipped with individual number plate.



GUARDED in more ways than one

Smart playing means more than a quick-forming defense.
Smart playing means taking no team-crippling chances.

- Guard hard working ankles, knees and wrists from painful, "simple" injuries.
- Give straining muscles the support of a firm *rubber reinforced* elastic bandage.
- Protect vulnerable joints with ACE Reinforced Elastic Bandages.
- Give your team game-long protection and support.

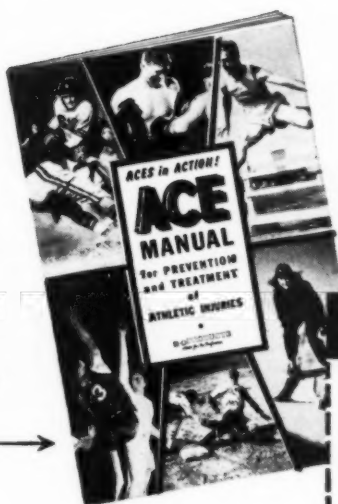


ACE® Reinforced (No. 8) Elastic Bandage Reinforced with Rubber

Made in the following widths:
2", 2½", 3", 4" and 6".

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Made for the Profession

FREE!
to Coaches,
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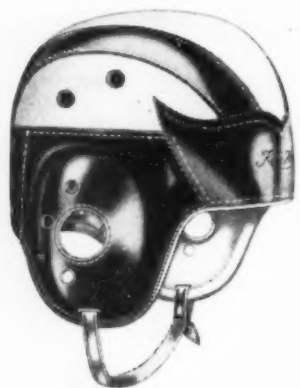
"SAFETY" HELMET
No. 774 List price \$21.00



No. 772 List price \$18.50
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You can 33 ¹/₃ % School Colors and

Ken-Wel does it again . . . and again! Ken-Wel's Original "Safety" helmet leads the parade in complete protection. Ken-Wel's new price policy for schools sets the pace for values.

Note the solid savings that can be yours when you choose from the representative sample values on these pages. These are just

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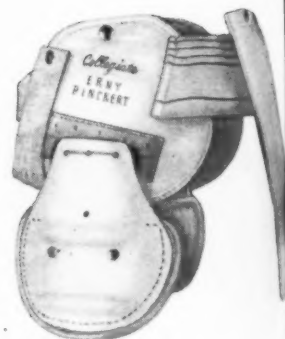
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Imported English Aniline Leather
List price \$18.00
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No. 310 List price \$11.75



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GLOVES STRIKING BAGS • TENNIS RACKETS • BASEBALL EQUIPMENT

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Value against **ANY Others**



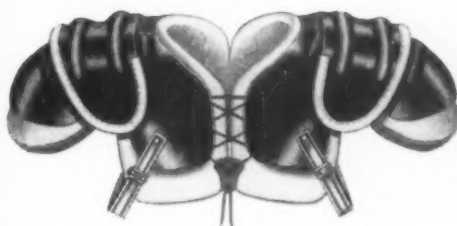
illegiate \$14
ic \$9
No. 746H List price \$10.50
No. 743H List price \$ 8.75
No. 733H List price \$ 7.00



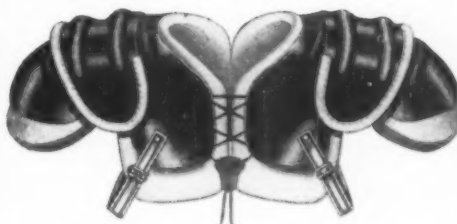
No. RH2 List price \$ 6.00



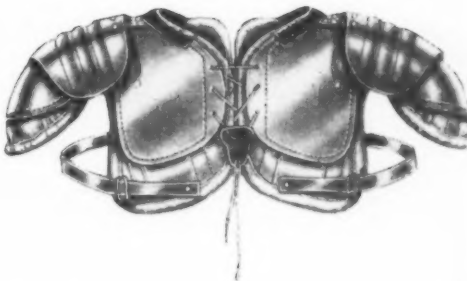
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Indoor Instruction

THE problem in modern gymnasium planning is to translate the needs of both the school and the community into the most efficient type of construction with regard to the number, size, type, and location of the units.

Joint planning and the observance of recommended standards are applicable to both new constructions and to the redesigning and extension of existing facilities.

Certain terms, used in determining facility needs, require definition in order to avoid confusion.

Teaching station: A separate teaching or meeting space of sufficient size to accommodate a group for the conduct of activities to be led or taught by one teacher. This means one leader in one room working with one group. The size of the group will be determined by the activity and the size of the given teacher station.

Group size: For basic planning in physical education, class size means 30 pupils per group in the elementary grades and 40 pupils per group in the secondary grades.

Frequency of group meeting: For basic planning in physical education, this means a daily instructional period for all children.

Time block: For basic planning in physical education, this means the number and the length of periods in the school day.

School day: The length of time each day that the school is making use of some or all facilities for school pupils.

Designed peak period load: The total number of pupils or adults who are to use a given facility at one time.

Standard classroom unit: The size of a regular classroom that is usually provided in a given section or locality, for example, 24' x 32' x 12', 22' x 30' x 12', or 24' x 40' x 12'.

TEACHING STATIONS

The number of teaching stations required to house the school physical education and recreation program is determined by the enrollment of the school, the size of class, the frequency of class meetings, the number of periods in the school day, and the program to be provided.

With the exception of the program requirements, these variables are expressed in a formula designed to indicate the minimum number of teaching stations which must be provided in a given school.

$$(a.) \frac{\text{Total school enrollment}}{\text{Class size}} = \text{No. of physical education classes to be scheduled daily}$$

$$(b.) \frac{\text{No. of phys ed classes daily}}{\text{No. of periods per school day}} \times 1.25 (\text{schedule efficiency weighting}) = \text{No. of teaching stations needed.}$$

(c.) For the elementary school, additional space is needed by younger children for recreation activity in the school day. The number of teaching stations needed plus 50% for recreation needs, equals the total facilities.

A schedule efficiency weighting is introduced in the formula to meet the very real administrative problems arising from the variations in grade size (i.e. number of sections per grade), the need for separate class scheduling of boys and girls in the upper elementary and secondary grades, and the problem of combining two grades in the smaller school.

This number may be translated into the various types of teaching stations required to have that program or programs which will best serve the needs of the school and the community. When the number and type of instructional facilities for the school program have been determined, attention should be given to the number and type of additional facilities which will be required for general community use.

Use of the formula in determining the number of teaching stations in schools of varying size and of different grade levels is provided for illustration:

Elementary school basic data: A six-grade elementary school with (1) a total enrollment of 360 pupils,

Type	See Fig. 1 for location of Areas A-J										Ceiling Height	No. & Size of Teaching Sta. Provided by Movable Partition	Approx. Seating with folding Bleachers	Number Tiers of Seating
	A	B	C	D	E	F	G	H	I	J				
I	80'	50'	74'	42'	4'	4'	4'	4'	0	0	20'	2-50' x 40'	0	0
II	90'	65'	84'	50'	8'	8'	4'	6'	0	12'	22'	2-65' x 45'	325	7
III	102'	65'	90'	45'	6'	6'	4'	6'	0	8'2"	22'	2-65' x 51'	265	5
IV	96'	76'	84'	50'	6'	6'	4'	6'	0	15'7"	22'	2-76' x 48'	500	9
V	100'	93'2"	84'	50'	6'	6'	6'	6'	15'7"	15'7"	22'	2-93'1" x 50'	1000	9
VI	104'	104'	84'	50'	10'	10'	6'	6'	24'	24'	24'	2-52' x 104'	1500	14
VII*	133'6"	96'	50'	84'	6'	6'	6'	6'	35'9"	35'9"	24'	2-96' x 66'9"	2500	20

*Game court and two teaching station courts run across the long dimension.

ion Units

(2) an average grade size of 30 (2 sections of each grade), (3) daily periods of physical education, (4) 8 physical education instructional periods per day.

(a.) $\frac{360}{60} = 12$ physical education classes to be scheduled daily.

(b.) $\frac{12}{8} \times 1.25 = 1.88$ teaching stations needed.

(c.) $1.88 + .94 = 2.82$, total teaching and recreation facilities needed.

This figure indicates the obvious need for two teaching stations and one recreation station. These may be provided by a single gymnasium and two auxiliary recreation teaching rooms, or by one auxiliary recreation teaching room and a gymnasium with a folding partition making two teaching stations.

If perfect scheduling were possible and maximum utilization desired, one facility period would be available for other school activity use each day.

It is clear that such an instruction-recreation facility provision would also meet all ordinary community needs both for physical activity recreation and for social gatherings.

Secondary school basic data: A six-year secondary school with a total enrollment of 750 pupils, an average class size of 40, a daily period of physical education, and a six-period instructional day.

(a.) $\frac{750}{40} = 18.75$ or 19 physical education classes to be scheduled daily.

(b.) $\frac{19}{6} \times 1.25 = 3.95$ teaching stations needed.

In this case four teaching stations are required. These may be provided by a gymnasium for boys with a folding partition making two teaching stations, and a gymnasium for girls with a folding partition making two teaching stations.

Another possibility would be two auxiliary rooms, one for boys and one for girls and a gymnasium di-

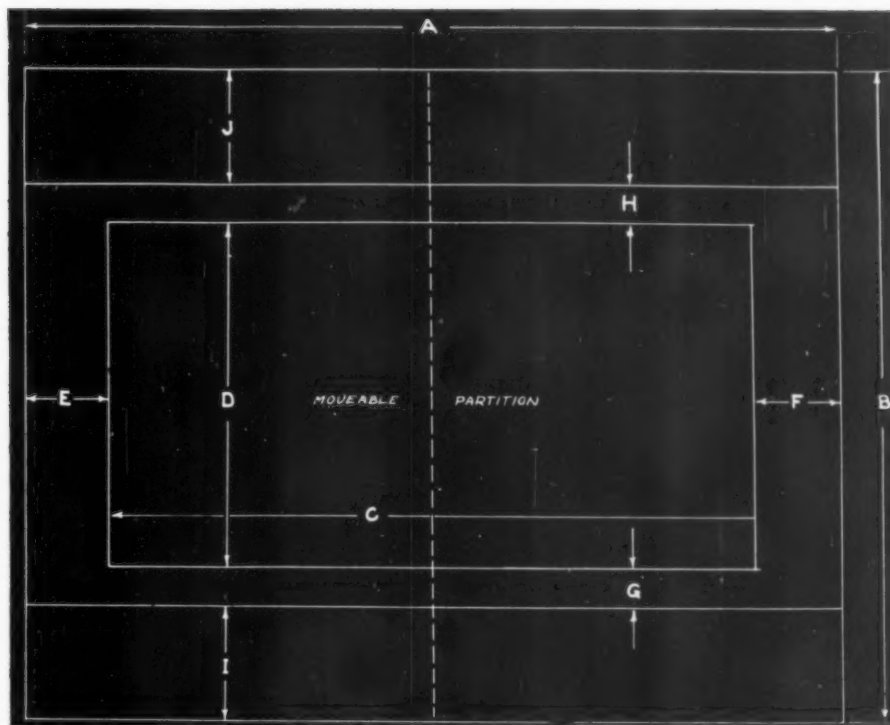


FIGURE 1: Recommended gymnasium floor space with choices as to size of teaching station and amounts of seating. See table on facing page for actual dimensions.

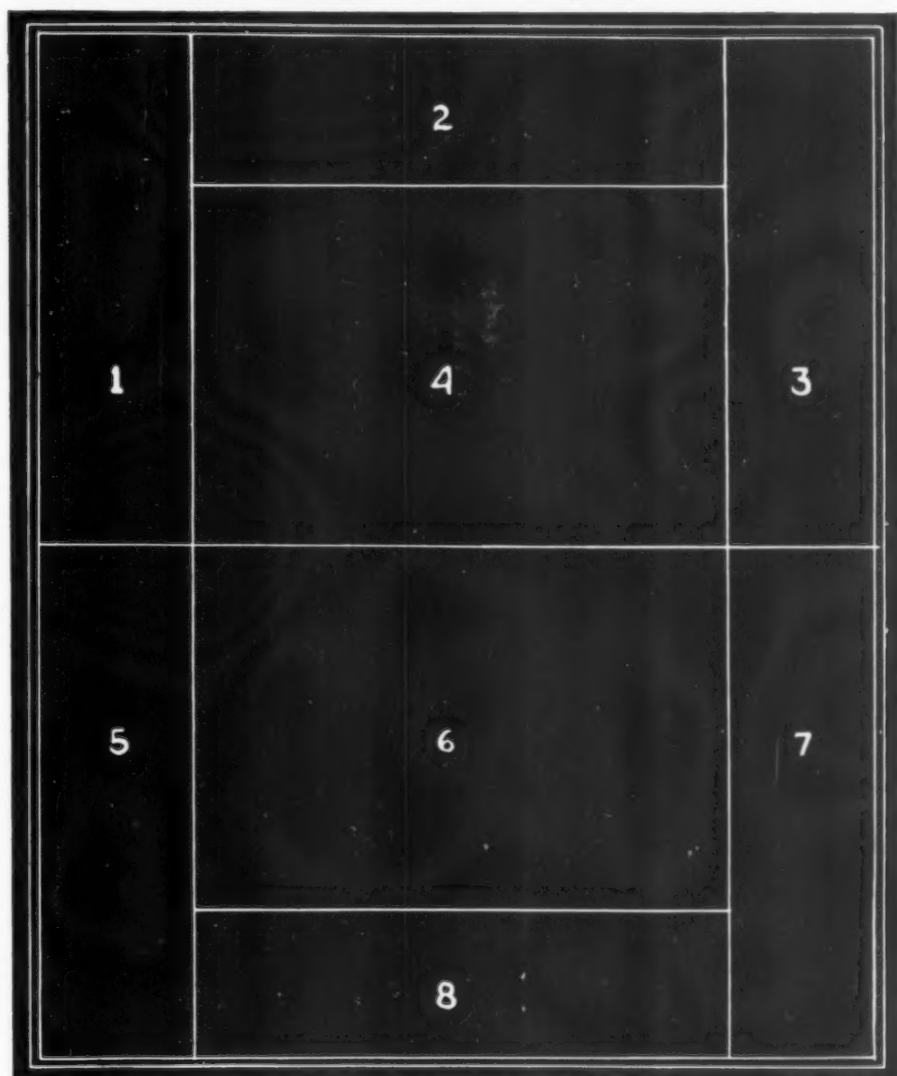


FIGURE 2: Suggested teaching stations. All inside lines are moveable partitions and all bleachers are the folding type. Partitions increase the number of stations.

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vided by a folding partition making two additional teaching stations. Other and alternative plans are possible. The major point being that four teaching stations are essential.

Again, it is clear that these facility provisions would help meet the physical activity and social gathering needs of a community which has a secondary school of 750 pupils.

INSTRUCTION-RECREATION FACILITIES

Indoor instruction-recreation facilities are such spaces, structures, and fixtures intended primarily for the indoor instruction of, and recreation use by, the participants.

Physical education—physical activity recreation: These facilities should be planned to provide for the vigorous and modified large muscle activities which comprise a part of the school program of physical education and the community recreation program of physical activities.

Gymnasium: In planning the gymnasium, the immediate concern must be the provision of needed teaching stations, safety zones, and official size courts for pupil and adult use.

Spectator space will not be required in all gyms, but when it is desired, appropriate provision should be made. Modern folding type seating makes possible the full utilization of all floor space for instruction-recreation areas. Consequently, neither the activity need of all children, the content of the program, the participation by community groups, nor spectator interest need be sacrificed.

When a decision has been made as to the size of court and the amount of safety space desired, the total number of teaching stations required, and the administrative set-up including seating that is advisable, a choice should then be made as to the type of gymnasium base plan which will be most efficient.

Suggested typical floor plans have been incorporated in **Figure 1** to illustrate variations in base floor plans for both teaching stations and seating capacity, with maximum space utilization.

The table is provided to simplify the choice of gymnasium. It presents the various space allocations, the number and size of the teaching stations, approximate seating capacity, and number of bleacher tiers required.

Types I through IV have essential characteristics as to length and size and are planned with relatively

short span. The recommended base plans are:

Type I—elementary school gym with a floor area 50' x 80' and ceiling height of 20'. This plan provides for teaching stations large enough for elementary school pupils, made possible by the folding partition and one floor area large enough for a junior high official basketball court for use by neighborhood youth and adults. The single large area (with partition folded and recessed) may also be used for badminton, volleyball, and other activities. If spectator seating is desired, the floor space should be increased as for the junior high school, Type II.

Type II—junior high school gym (grades 7 through 9) with a floor space 65' x 90' and a ceiling height of 20' to 22' (preferably 22'). This will provide, by means of the folding partition, two teaching stations of a size to accommodate the wider movement range of pupils in these grades. In addition it will accommodate one official junior high basketball court with ample safety zones, three 30' width volleyball courts (without safety zones), two small unofficial basketball courts, and four badminton courts. If seating is desired, folding bleachers may be provided on one or both sides to accommodate a total of 325 persons.

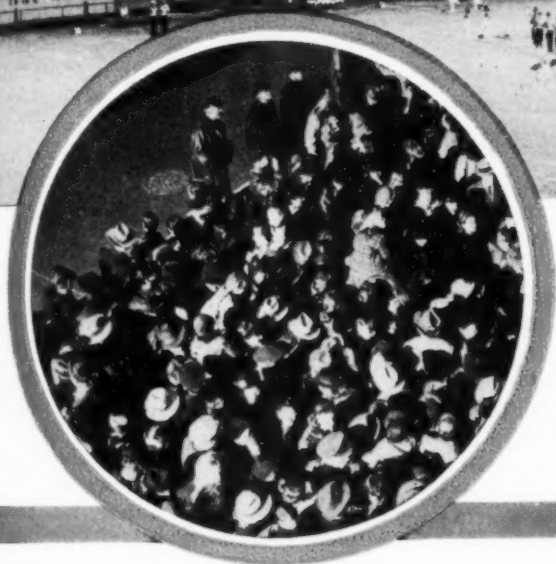
Type III — junior-senior high school girls gym with a floor space 65' x 102' and a ceiling height of 20' to 22'. This will provide, by means of the folding partition, two teaching stations of a size to accommodate activity demands of the program for girls. Also, the total area is of sufficient size to provide for one official women's basketball court, two small unofficial basketball courts, three volleyball courts, and four badminton courts. In addition to required safety zones around the official basketball court, sufficient space will be available on one side for folding bleachers to accommodate 265 persons.

Type IV—senior high school gym with a floor space 76' x 96' and ceiling height of 22'. This will provide for two teaching stations by use of a movable partition, one official senior high basketball court, two official junior high basketball courts with limited safety zones, and volleyball and badminton as indicated for Types II and III. Folding bleachers installed on one side will seat 500 people and allow for safety zones around the official senior high basketball court.

Types V, VI and VII—larger senior high school gyms. These gyms

(Concluded on page 57)

Planned Lighting



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MAINTENANCE

Of the Indoor Plant

THE maintenance of the athletic plant is so closely related to the construction of the facilities that a discussion of one must necessarily embrace some consideration of the other.

The administrator of the activities program should work in close harmony with the architect, the contractor, and the suppliers of specific equipment. Such unity of planning will produce a plant ideally suited for the situation, with a minimum duplication of effort and a minimum number of alterations.

The units incorporated in the modern plant include the gymnasium, the locker room, the towel-equipment service, the shower room and toilets, the special activities room, and, in some cases, the swimming pool.

THE GYMNASIUM

Floor: Customarily the gym floor length is $1\frac{1}{2}$ times its width. The height ranges from 20 to 35 feet, depending on whether or not an upper running track or bleacher seating space is provided.

Floors are constructed of semi-resilient material that offers a smooth but not slippery surface, cleans readily, and withstands hard usage. Birch, beech, maple, oak, and walnut have been utilized, but maple is the most commonly accepted flooring.

Old floors are reconditioned by sanding, then treating with either two or three coats of specially prepared laboratory-tested "sealers" or finishes.

Oak floors usually require a special priming coat. A sanded maple floor, on the other hand, can be coated (by brush) with the acceptable sealing preparations without a primary application.

The boundary lines and free-throw lanes should be painted on the basketball floor in advance of the sealing.

By **GEORGE T. BRESNAHAN**

The harmful effects of raising dust when sweeping is not fully appreciated by many individuals. Aside from casting dust particles into the ventilating systems, the sweeping deposits a film on the walls and ceiling. One superintendent reports that lighting efficiency was reduced by one-fourth because of dust and grime accumulation on walls and ceiling.

Much of this dust can be eliminated by proper use of a brush or mop. Sweeping compounds have been found effective, as well as mop heads treated with oil. However, the custodian must know how to use the oiled mop to prevent depositing an excess of oil on the floor, which may produce a slippery spot or a dirt-catching area.

The daily shaking out of the mop head, followed by a careful application of the correct amount of oil compound, is recommended. If 10 to 12 hours elapse before the implement is used, oil will be absorbed evenly in the fibres. Provision should also be made for laundering the mop heads at least once a month.

Gymnasium and basketball floors which have been sealed with a top grade commercial compound are frequently cleaned by moistening an old towel with water and wrapping the cloth around the fiber of a floor brush.

Heating: The heating of the physical education plant depends on the function of its various parts. For example, the temperatures suggested are 62°F for the gym or game rooms, 72°F for the locker room, and 82°F for the swimming pool room and shower bath area.

Radiators should be set high above the playing area or else semi-enclosed by the wall, and protective screens placed in front of them. The

unit system of heating, employing an electric fan mounted to the rear of the radiator, possibly provides better heating and ventilating.

Lighting: Electric power service companies usually cooperate to help solve the lighting problem. The "foot-candle"—the amount of light cast by one international candle from a distance of one foot on an upright wall or screen—is employed to measure the intensity of light.

For average gym activities, some authorities believe that a light intensity of from 6 to 12 foot-candles is adequate. In many cases, natural light from the windows is sufficient.

Ventilation and window placement are usually studied jointly. For example, the skylight has some advantages in supplying both light and fresh air. However, the matter of moisture condensation and dripping must be considered.

In certain gymnasiums, this has been solved by elevating the skylight area and installing windows in an upright position so that they may be opened in louver fashion. Condensation is then carried off by means of troughs.

The inconvenience of intense sunlight is met by means of glass brick windows, frosted glass, or, in the case of clear glass, by an application of a coat of whitening.

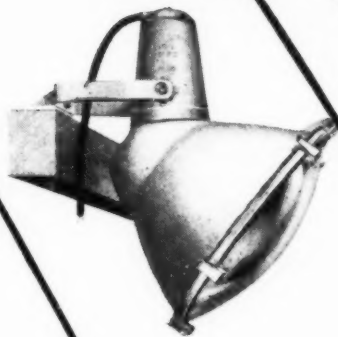
Many athletic directors arrange their illumination in varying degrees, concentrating on the playing area rather than on the background or spectator area.

Emergencies: The alert director will see that provisions are made for emergencies. He will consider the installation of red lights to identify emergency exits, and "panic bolts" on the doors which swing outward. Furthermore, he will make arrangements so that fire department, hospital, or police services can be readily summoned.

He will learn his own liability

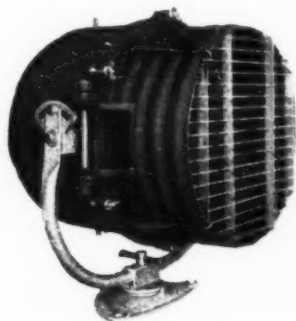


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and that of his organization, for damage claims arising from physical injuries to students, staff, or public.

In these days when the nation is becoming more "social-minded," the director must always be ready to answer the question, "Who is going to pay for this injury?" Although school systems are usually considered an "arm of the state" and thus immune to suit, the doctrine of "negligence" prevails.

Adequate safeguards are available for the meeting of potential claims for bodily injury, and the safety-minded director or coach will see that he is protected.

Apparatus: Whether the gym apparatus is meager or ample, it is obvious that it should be kept in repair, placed in the most efficient location, and easily and quickly stored. Heavy apparatus, when mounted on wheels or on a low truck, can be readily transported.

Gym mats have for years been a source of worry to the instructor, chiefly in keeping them clean and free of infection. Covers for wrestling, boxing, and gymnasium mats are available in water-repellent material so that they may be either wiped off or scrubbed.

Individuals who are obliged to use and to clean canvas mat covers, may find the following method helpful:

Rig up two pulleys spaced the width of the mat. At the end of each pulley rope, place a large snap. Insert the two snaps in the two grommets so that you can pull the mat to an upright position, just clearing the ground. A stream of water played on one side of the mat and then the other, will give you a satisfactory cleansing.

A well-planned gymnasium will have an adjacent supervisory office which permits the attendant an unobstructed view of the activities area.

LOCKER ROOM

The average locker room can be better ventilated by the introduction of fans, either simple or elaborate. These should be placed so that uniform heating is not sacrificed and drafts are eliminated.

Many of the head colds suffered by students are traceable to the locker room. Failure to dry the hair and to bring the body temperature down before stepping into the cold outdoor air, are contributing factors.

Perhaps a "recovery" room, in which the student can take the time to remove body moisture and to don

GEORGE T. BRESNAHAN is one of the most distinguished track coaches in the college field. In addition to tutoring the track squads at the U. of Iowa, he is an assistant professor of physical education and co-author with Dr. W. W. Tuttle of that perennial best-selling text, *Track and Field Athletics* (C. V. Mosby Co.)

civilian clothing leisurely, would help. The question is "Will the impatient young student take the time?" even if space for such a room is made available.

Lockers: A full-length locker for each student is impractical in many institutions, hence the cubicle or basket system is used as a supplement. The hosing of the locker room floor is facilitated when the lockers are elevated or set on a concrete base.

Metal lockers have a definite advantage from the standpoint of cleanliness, as well as for safe storing of clothing. Commercial preparations have proved valuable in combating fungus growth, such as athlete's foot or gym itch. Competent janitors use soap and water unsparingly for both the lockers and the floors.

Circulation of the air in locker room, previously mentioned under heating, is a necessity if exercise costumes are to be adequately dried between class periods.

LAUNDRY-TOWELS

The towel room, readily accessible to the locker rooms, is operated under various plans. Some schools require the student to supply and launder his own towels. Others provide a towel exchange after the student has purchased a towel. Still others charge a locker fee which covers such service as the daily clean towel, the rental of a combination padlock, and the weekly laundering of gym clothing.

Even small schools have found it advantageous to install a washing machine and a room for quick drying. One maintenance superintendent in a system of 900 students estimated that the saving on laundering janitor's dust mops alone for one year would pay for the cost of the washing and drying installation.

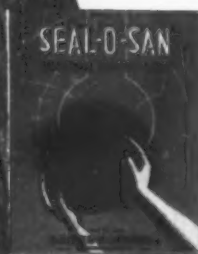
He reported a reduction in laundry shortages (because fewer persons handled the items), a speed-up in the availability of clean articles, and a lesser number of towels pur-

(Continued on page 34)



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chased at the beginning of the year.

Rooms for quickly drying the garments and towels have been fitted out even where funds and space have been limited.

SHOWER ROOM-TOILETS

The floors of the shower room and toilets are considered from the standpoint of cleanliness, economy of construction, and freedom from slippery surfaces. The advice of the school architect should be sought on the most effective types of tile, cement, or other water-resistant materials.

On older installations, the athletic director may be required to improvise with rubber matting or wooden "duck walks." When the C.C.C. camps were in operation, and wooden slat platforms were part of the equipment, a commendable practice was established. Two sets of "duck walks" were provided for each shower floor. While one set was in use, the other was thoroughly scrubbed and placed in the sun for a day.

Germicides and disinfectants have their place, but neither will supplant the diligent use of soap and water in scrubbing the locker, shower, and toilet rooms.

Shower heads have frequently been a source of annoyance to the administration. To begin with, authorities recommend one shower for every six boys and one shower for every five girls. If the girls are to be provided with individual showers and dressing space, one shower can accommodate no more than four.

Shower heads are now available which claim a saving in water, correct height and direction of spray, and ease in cleaning the lime deposits so frequently obstructing the small outlets.

City water systems with a central water-softening installation have helped reduce the number of clogged shower heads. Some schools have installed their own water-softening devices, similar to those used in private homes—an example of which is the "Culligan" system.

This is based on the flow of the normal water supply through a mineral bed known commercially as zeolite, which withholds the elements that make water hard, mainly calcium or magnesium. At intervals of a week to a month, the mineral bed is "regenerated" by back-flushing with a rock salt solution for a period of 20 minutes.

The operation of such a softener requires only the turning of a few valves and the addition of rock salt

in a measured quantity. More expensive water-softener appliances are available which are automatic rather than manually regenerated as above.

Unless the shower supply is centrally controlled by a thermostat, an individual mixing chamber is recommended for each shower. This chamber may consist of a three-inch pipe, ten inches in length and capped at each end. The chamber permits the blending of incoming hot and cold water to the right temperature before reaching the shower head.

The above precaution may seem superfluous, but cases of shower room scalding have been reported from schools using live steamwater tanks.

The hot and cold water controls at each shower should be of a safe type. China or glass handles are being replaced by metal wheels to avoid cut hands from damaged controls.

The director making a survey of toilet facilities ordinarily calculates a stool for 30 boys, a urinal for 20 boys, and a stool for 15 girls. Foot control of flushing has advantages. One must consider the amount of water required to flush efficiently. Some types of stool require as much as seven gallons of water. Deodorants also have their rightful place here, but cannot substitute for soap, water, and scrubbing.

SWIMMING POOL

Swimming pools averaging 30 by 60 feet and having a depth ranging from 4 feet at the shallow end to 9 feet at the deep end, are found adequate for most schools. School men considering the installation of a new pool are advised to consult experienced firms. Such firms have a knowledge of the proper location, the installation of scum gutters, non-slip surfaces, filtration, chlorination, and heating.

Temperatures of the water range from 70°F to 80°F.

When kept clean and free from bacteria, the water need not be changed for several months. Tests of pool water in constant use reveal that, from a bacteria-count standpoint, it would be acceptable for drinking.

Chlorine is the most frequently used element in keeping the bacteria count low. The addition of alum to the circulating water helps coagulate certain material, which is then precipitated when passed through the filter. Algae are suc-

(Concluded on page 69)



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Basic Trampolining

RECORDS tell us that du Trampoline, a gymnast of the middle ages, originated the springboard, the leaping board, and the bounding board, then went on to become the founding father of the activity that now bears his name.

Watching fellow acrobats bounding up from the safety nets, gave him the idea. Why couldn't a skill be developed on the net itself? With this in mind, he began working up a number of stunts for an act, meanwhile diminishing the size of the net for practicability.

Almost nothing can be found describing his repertoire, but trampoline came to mean to spring, leap, vault, and, more specifically, a type of springboard and bounding device.*

Circuses and traveling shows have adopted the equipment in one form or another and have used it in their high trapeze and horizontal bar work. In recent years, Nissen and others have been responsible for its adoption as a standard piece of equipment in the schools and colleges throughout the country.

The benefits of the activity may be itemized as follows:

1. It develops a kinesthetic sense of coordination in all parts of the body.
2. It develops a desire for activity and provides an outlet for excess energy.
3. It promotes and helps build physical efficiency, strength, and endurance.
4. It aids the conditioning process. Muscle tension (both continuous and alternating), muscle stretching, and the alternate working of the antagonistic muscles are involved.
5. It contributes to increased vital capacity and increased fatigue-recovery.

Inasmuch as the activity requires a great deal of skill, every student should be thoroughly schooled on the fundamentals, regardless of how expert he is in diving and tumbling. During the early stages,

the student must learn to control his bounce, work the bed, and take off with confidence and coordination.

Good supervision and progressive training will help prevent injury. The trampoline should be employed only where adequate supervision and spotting are available and not until the class has been thoroughly warmed up.

All the skills should be demonstrated and taught at low altitudes with concise instructional methods. Extremely high bouncing is an advanced skill and should not be attempted by the beginner. Students should be taught to work for control rather than height.

Correct dismounting should be encouraged and reckless jumping from the bed to the floor, prohibited. Either hand spotting or an overhead safety belt is essential in all work on the tramp.

Before permitting the student to increase his height, it is important to teach him to bounce vertically under control so that he can "spot" his bounces. Balanced or vertical take-offs, rather than horizontal ones, should be stressed to reduce the chances of abrasions and strains.

The slight knee-bent landing position should be taught as a means of "killing the spring" when the performer is not quite sure of his bounce and balance.

BOUNCING

- a. Upon landing, feet hit simultaneously about hip-width apart. Knees are slightly flexed and body relaxed.
- b. Eyes are focused forward and downward on metal frame.
- c. On take-off, body is held slightly rigid, knees straight and toes extended.
- d. Arm action is coordinated with landing and take-off to impart control and balance. In landing, arms drop in a backward and downward motion; and in take-off in a forward and upward position.

(Continued on page 40)

*G. P. Nissen, *Trampoline Tumbling*, p. 2.

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NISSEN has pioneered Trampoline design for 10 years . . .

NISSEN Trampolines are serving high schools, colleges, universities, YMCA's, recreation centers throughout America. They brought sport and training to World War II forces.

NISSEN engineers and craftsmen work **ONLY** at making a Trampoline worthy of Nissen leadership.

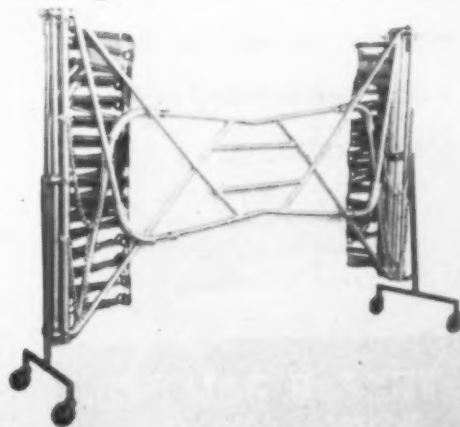
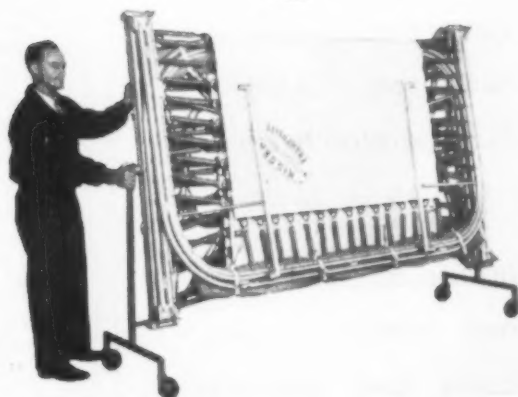
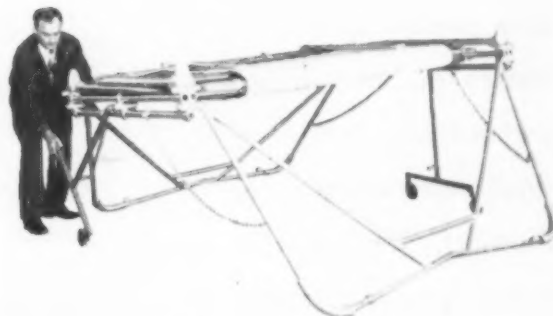
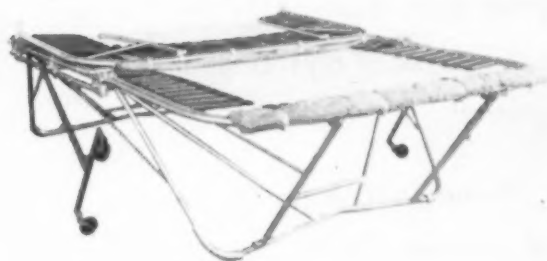
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**EXCLUSIVELY TRAMPOLINE
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Nissen Flashfold Model folds in 5 easy steps (pictures at right). One man folds it . . . One minute does it.

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*Name Trampoline Registered U.S. Patent Office.



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DOLCOROCK imparts a brilliant, glossy finish to your gym floor — like an extra layer of crystal-clear quartz!

Having a high coefficient of friction, DOLCOROCK cuts down "slide"—really makes games "faster" by permitting sudden starts and stops while reducing slipping. That means an extra margin of safety for sports participants. Spectators, too, like DOLCOROCK's attractive lustre.

Virtually impervious to grease, dirt, ordinary acids and alkalis . . . easy to apply and maintain . . . equally correct for hardwood, cement and magnesite floors.

Write for the comprehensive DOLGE booklet
"Floor Maintenance"

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WESTPORT, CONNECTICUT

SEAT BOUNCE

- Landing is made on spot where feet last left bed.
- Hands, with fingers facing feet, land beside hips simultaneously with seat. Hands are used to push with on take-off.
- Legs are extended forward and apart in V shape.
- Position of trunk is vertical, forming a 90° angle with legs, or inclined slightly backward.
- Upon landing, seat, thighs and hands contact bed simultaneously.

KNEE BOUNCE

- Knees are flexed and contact with bed is made with insteps, shins, and knees landing simultaneously.
- Hips are directly above knees and shoulders are in line with hips.
- Hips remain rigid and absolutely no movement is made in lower part of back. Stomach is not thrust forward in landing or take-off.
- Legs are brought forward in take-off and landing is made on feet.
- Arm action is same as in bouncing skill.

FRONT FALL or FRONT DROP

- Fall is made without any arch in back. Palms, forearms, chest, abdomen, and thighs contact bed simultaneously. Forearms and palms, on landing, are slightly wider than shoulders.
- Fall is made from a vertical bounce, and horizontal position is assumed by raising legs. On take-off, body does not lean forward. Abdomen lands approximately 18 inches in front of spot where feet left bed.
- To bring body back to vertical position, palms and forearms push against tramp when bed is fully depressed and legs are brought forward for landing.
- A good lead-up stunt is a knee bounce to a front fall. The knee bounce is executed as previously explained. Upon leaving bed, legs are thrust backward and slightly upward until horizontal position is achieved.

BACK DROP

- Eyes must be focused on metal frame. This helps keep head forward and chin on chest. Upon contact with bed, neck is firmly tensed so that head will not snap on landing.
- Take-off is same as for seat bounce except that at peak of



HAND STAND

bounce, hips are rotated forward and shoulders are thrust slightly backward so that landing is made on back with body from shoulders to hips contacting bed simultaneously.

- Extension of legs starts before bed is fully depressed. As body starts upward, head and shoulders are brought forward with a slight arch in back. This movement is similar to a neck snap or kip from the mat.

- Beginners will find it helpful to grasp back of thighs with hands, keeping legs straight at about a 45° angle.

HAND AND KNEE BOUNCE

- This is a comparatively easy skill similar to knee bounce except that hands and knees hit bed simultaneously.
- Toes are extended with insteps up and do not contact bed.

HAND BOUNCE

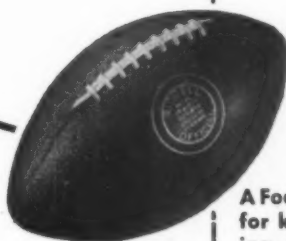
- Never attempted from a high bounce.
- Taught to beginners from knee bounce.
- Landing is made on hands 12 inches or more in front of take-off. Back is arched slightly and head is held back.
- Push-off is made with hands synchronizing with extension of knees.

TOUCHDOWN PERFORMANCE

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Nation's No. 1 protective Helmet, with exclusive inner suspension which evenly distributes shock.



A Football unmatched for kicking and passing. Top-grade leather assures long life and perfect shape.



The strongest, most durable and flexible shoe on the market. Ideal for both line and backfield play.

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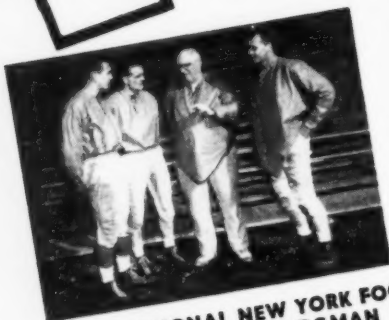
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2

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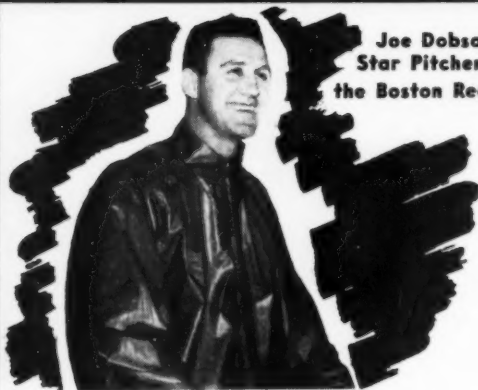
No. 143 REDUCING SHIRT

Worn in place of old fashioned sweat shirts which were proven inadequate for reducing and "getting into shape" purposes. Used by baseball, basketball, football, hockey, track and other teams. This lightweight shirt is specially designed to keep heat in and cold air out, thereby removing possibility of chills and consequent soreness which plagues conditioning athletes. Cut like a shirt with drawstring at neck and elastic at wrists. Made extra full to permit wearing over uniforms or other heavy clothing if desired. All seams stitched, bottom edge bound.

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No. 144 WARM UP JACKET

A lightweight windproof jacket for quick warm up in sports of all kinds. Made from genuine Nylon with a thin coating of the famous Neoprene. Unaffected by perspiration. Patterned particularly full with extra under arm sleeve length for easy action. Has zipper front and pleated back to provide about 6 inches of extra fullness. Elastic at wrists. Color — forest green. Weight — 13 ounces. Sizes — small — medium — large.



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In a model lesson plan, the entire class is placed around the trampoline for "guarding" and, from this position, rotate for their turn. With large classes, it is a good idea to keep each turn brief and thus keep the class moving.

Each new skill should be demonstrated clearly and concisely, and the students should be taught how to dismount by supporting themselves on the metal frame as they get out. Jumping out should be prohibited.

LESSON I

1. Demonstrate bouncing, stressing "spotting" and "killing" the bounce.
 - a. Bounce and break on third bounce.
 - b. Straight bouncing and tuck at height of bounce, returning to feet in swing time.
 - c. Repeat with pike position.
 - d. Straight bouncing and break on command.

LESSON II

1. Review Lesson I
 - a. Demonstrate straight bouncing with half turns to right and left.
 - b. Repeat with full turn to right and left.
2. Demonstrate knee-bounce. Stress safety measures.
 - a. Student should be taught to do a skill with only three bounces preparatory to take-off.
 - b. In swing time.
 - c. Half twist to right and left.

LESSON III

1. Review knee-bounce routine.
2. Demonstrate seat-bounce and safety measures, hands by hips, fingers facing feet and contacting bed simultaneously with seat and thighs.
 - a. Seat bounce without hands.
 - b. Seat bounce with hands in swing time.
 - c. Seat bounce to knee bounce routine and in swing time.

WILLIAM FOOTRICK became acquainted with the trampoline while serving the Navy V-5 program as an athletic officer. Upon returning to his civilian post at Gardner (Mass.) High School, he purchased a trampoline for his department and organized a "Tramp Club." The unusual success of his trampolining program moved him to write this article.

Basic Nomenclature

Tramp: Abbrev. for trampoline.

Bed: Surface performed upon.

Working the bed: Timing of bed to get maximum lift and control.

Free bounce: A bounce used for control and for take-off.

Routine: Combination of exercises in succession.

Break: Stop or "killing" rebound by flexing knees and absorbing recoil of bed.

Check, checking: Stopping or slowing revolution.

Spot, spotting: Landing on same place on bed after take-off.

Guarding: Guarding performer from injury.

In swing: Execution of a routine without bounces between exercises.

Turnover: Any fraction of a somersault from any take-off position.

Tuck: Position of body with knees pulled up to chest.

Pike: Similar to jack-knife position in diving.

Kick-out: Coming from a tuck to pike.

Come-out, open-out: Extending body and checking, preparatory to landing.

Beat: Proper coordination of skills in bouncing.

Side-spin: Turning of body on its dorso-ventral axis.

(G. P. Nissen, "Trampoline Tumbling")

d. Seat bounce with half turn to right; to left.

LESSON IV

1. Review bouncing technique for beat and warming up.
2. Review knee-bounce technique, and in combination with seat bounce technique.
3. Demonstrate front fall or front drop.
 - a. Demonstrate and use lead-up stunt—knee bounce to front fall.
 - b. Front fall to knees; front fall to feet; front fall to seat bounce.
 - c. Seat bounce to front fall.

LESSON V

1. Review front-fall technique and variations.
 - a. Front fall half turn to right; half turn to left ("bluches").
 2. Demonstrate back-drop; stress safety measures.
 - a. Demonstrate and use lead-up stunt seat-drop to back drop.
 - b. Back drop to seat bounce;
- (Concluded on page 56)



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"KANTLEEK"
FOOTBALL BLADDERS**

FIRST CHOICE—YEAR AFTER YEAR

"KANTLEEK" Bladders, used in most official footballs, are the *first choice* of manufacturers, coaches and players. Specially shaped to conform to the ball casing, they are compounded to withstand great and sudden pressure. Tough and long-living, these bladders have the patented all-rubber

"KANTLEEK"* valve—*positive*

assurance against loss of air!

FINEST QUALITY SINCE 1877

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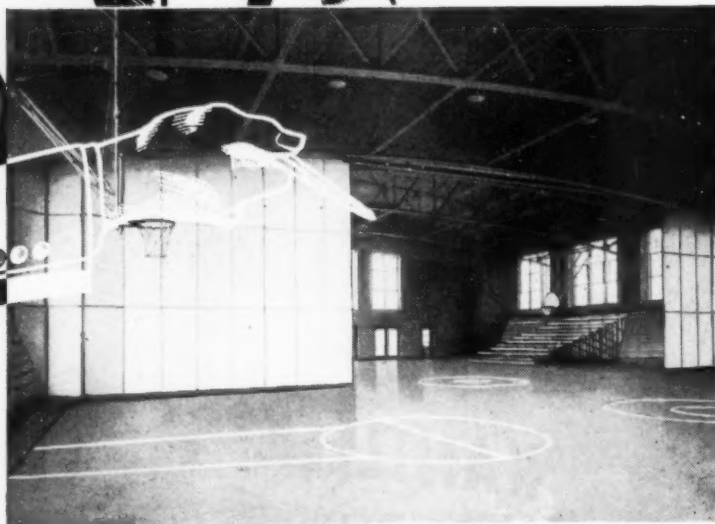


SINCE



1909

Since 1909 Horn Folding Bleachers and Folding Partitions have been specified by Architects for school installations from Coast to Coast. Installed as a combination these units create three gyms in one. Each installation is engineered to specifications.



Horn Folding Partitions are manually or electrically operated

INSTALLATION

A complete factory installation service is another Horn feature. Service is guaranteed.

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Horn Brothers Company maintains offices in all principal cities from Coast to Coast. A collect telegram to the Fort Dodge office will bring our representative without delay.

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The Horn Bleacher is Engineered to meet all local and state requirements. Note that wood riser boards are not required since all bracing is of steel. This insures best working conditions during all seasons. Elimination of riser boards also makes for a more comfortable seat since it is possible to have full eighteen inches foot board, and the spectator may sit with his legs under the seat the same as a chair.



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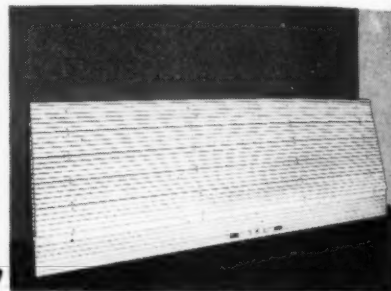
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FT. DODGE, IA.

● LOOK for the Horn classification in your issue of SWEET'S CATALOG. Complete details are presented. Let our Engineering Department solve your seating and partition problems.

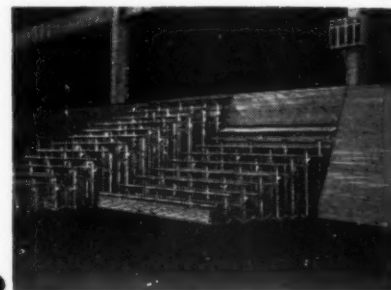
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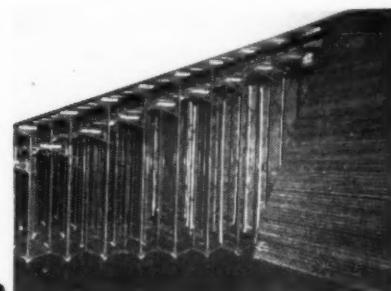
1909



1. HORN FOLDING BLEACHERS with the new "Safe Seat" seat board construction offer greater safety, beauty and utility. Compact and sturdy Horn Folding Bleachers are approved in all states.



2. STEEL BRACING offers mobility and safety through the years. Automatic locking-patented folding arms—each seat is supported directly from the floor.

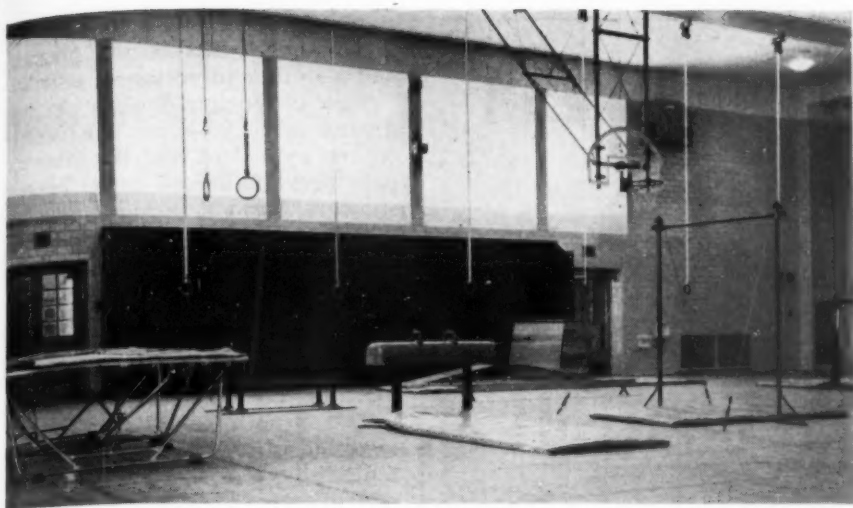


3. USED IN COMBINATION Horn Folding Bleachers and Folding Partitions will give schools the use of three gyms. Specify HORN in your building plans.

HORN BROTHERS COMPANY

DIVISION OF HORN INDUSTRIES

FORT DODGE, IOWA



Daylight lighting is accommodated by glass block panels on all four sides.

Utica's New Dream Gymnasium

(Continued from page 13)

midget auditorium, fitted with stage, dressing rooms, and everything essential for dramatics. The room will be used for speech classes and as a meeting room for community programs.

The breath-taking modernity and scope of the new plant is best illustrated perhaps by an itemization of the facilities.

The building is a two-story structure with a basement. In the basement are the following units:

1. A club assembly with stage and dressing rooms, having a seating capacity of about 200.

2. A visiting team room with 36 lockers plus showers and lavatory.

3. Storage rooms for equipment. The first floor includes the following:

1. Shower, locker, and toilet rooms for both boys and girls.

2. Towel, drying, and suit-drying rooms.

3. A music department consisting of a class room, a choir room, and a band room, together with rooms for the storage of gowns, instruments, and sheet music.

4. Lavatories for the public.

5. Janitors' rooms.

The second floor houses:

1. A main gym, 93' by 135', subdivided into three small gyms by two electrically operated folding partitions 23' high. These partitions have cork panels 6' high on each side of each folding door.

2. Rooms for physical directors, with showers and toilets for both men and women teachers.

3. A corrective room separately ventilated.

4. Gym equipment storage rooms.

5. A ticket booth and check room.

Now let us take a closer look at the special units.

Locker rooms. The locker rooms are arranged to accommodate eight classes daily, with eight box lockers adjacent to a large general locker. The student keeps, under lock, his or her gym equipment in an assigned small locker, and uses the large locker only when attending a gym class—transferring the lock to the large locker to insure the safety of personal belongings.

The girls' locker room contains 1,474 lockers, 15 hair dryers, a "gang" shower and a few individual showers for special cases, plenty of mirrors, a towel room, a drying room, and toilet accommodations.

The boys' locker room contains the same type of facilities except for the hair dryers and individual showers. An added feature is a special section of individual large lockers for the home varsity teams.

All in all, there are 1,538 lockers (including the varsity units), 27 shower heads (controlled), 2 drying rooms, a towel room, an equipment drying room, and a lavatory.

The lockers are made of metal on a tile base, and the rooms themselves have quarry tile floors; tile walls of buff color, from floor to ceiling; forced air heating and ventilating; and vapour-proof lighting fixtures.

The shower, towel, and drying rooms are constructed of the same materials as the locker-room units. All the shower rooms and lavatories are provided with soap dispensers or liquid-soap dispensing systems.

Gymnasium. The size and the partitioning of the gym have already been mentioned. The main features include:

1. A main basketball court 90' x 48'.

2. Three cross-courts each 85' x 42'.

3. Folding type bleachers on all four sides where space is available, 11 rows to each section, with a seating capacity of 2,200.

4. Two fan-shaped glass basketball backboards for the main court, and two metal backstops for each of the smaller gyms, making 8 fan-shaped goals in all. Every hoop can be raised to the ceiling by means of an electric winch.

5. Two electric clocks painted in school colors and operated from the Academy's master clock.

6. Two electrically operated scoreboards, one at each end.

7. Artificial lighting through 30 recessed 3-lens reflectors with 500-watt lamps in each.

8. A sound system which can be used from the scorer's bench or for record playing, and which can be operated separately in each of the three smaller gyms.

9. Radio outlets for outside broadcasting.

10. Both direct and forced air heating with ventilation, and arranged for re-circulation of air. All thermostatically controlled by means of Johnson Temperature Control system.

11. *Floor*—1¼" hard maple; *walls*—glazed tile floor to ceiling; *ceiling*—acoustically treated Celotex; *daylight lighting*—glass block panels on all four sides; *floor markings*—black lines for basketball, white lines for volleyball, red lines for badminton.

The gym also contains a complete line of the finest most up-to-date apparatus, as follows:

3 spring boards	2 sets weights
4 high bars	2 safety belts,
3 sets flying rings	suspended
3 sets traveling rings	2 safety belts, hand
3 parallel bars	12 volleyball
3 low parallel bars	standards
2 rope ladders	4 jump standards
2 training tables	2 vaulting boxes
4 balance beams	1 teacher's platform
18 climbing ropes	3 long horses
2 upright movable	3 bucks
mat racks	3 beat boards
6 wall mat hooks	1 pulley weights
1 flat mat truck	1 sound system
40 mats 5 x 10	3 trampolines
3 long tumbling	stall bars
mats	wands
1 wrestling mat	testing equipment

The physical education staff that will handle the program consists of four men and three women. One of the four men will in addition to his regular academic schedule, coach the varsity football and basketball teams. The other six members of the

From Coast to Coast Coaches Praise the New Ting Plan for Athlete's Foot Control!

FROM KANSAS

"It was more effective than anything else we used."

FROM KENTUCKY

"Ting is the only remedy I've found to date!"

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"Easy to apply... quick acting... doesn't cause irritation."



Ting is different. It combines the better contact of a cream with the drying, deodorizing quality of a powder. Easy to use, it does an amazing 2-way job.

1. **Ting** kills specific types of Athlete's Foot fungi on 60 second contact.
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**Ting... at
all druggists 60¢
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For clinical and laboratory data on TING, write the Pharma-Craft Corporation, 405 Lexington, New York 17, N. Y.



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RACING TRUNKS
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No Pockets or Loops
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TERRY ROBES

White S-M-L—\$6.00 Each

OCEAN POOL SUPPLY CO., 1140 BROADWAY, NEW YORK CITY 1

staff will carry out the physical education and intramural program, and all other inter-school activities.

Two instructors will be on duty during each gym class, one teaching on the gym floor and the other supervising the locker room, checking showers, issuing towels, etc. This will apply to both the boys and the girls classes.

In some instances, whenever all three gyms are in use separately or when a corrective class is being conducted, all six instructors will be on duty.

The program will embrace the teaching of all the skills in basketball, volleyball, badminton, softball, and all the approved types of gym apparatus.

Each of the three gyms is equipped with a complete set of apparatus, including floor-marked play areas, so that identical programs can be conducted in each gym.

One of the three gym areas will be assigned to boys, the area at the other extreme to girls, and the middle area will be shared, with the girls using it two periods and the boys having it the rest of the day.

The students will observe a definite route in approaching the gym. The boys will enter and leave from the south wing of the main school building, while the girls will follow a northern route to their locker room and gym section.

Both boys and girls will be required to wear an approved gym costume as selected by a committee composed of students, instructors, the school principal, and the physical education supervisor.

A clean laundered towel will be provided each student for the required shower at the end of every gym class. Towels will also be issued following after-school activity, varsity games, and practice sessions.

Every boy will be required to attend two 45-minute periods each week, unless excused by a doctor's written request, and will be scheduled for some form of after-school seasonal activity.

Being a community project, the gym is scheduled for use six days a week throughout the day and evening. Consideration for the students comes first, of course, then comes the community recreation evening program; the local Catholic high school, which will play its varsity basketball games in the new gym; and Utica College, which will use the gym whenever available.

The gym will also be the center of activity for sectional school gymnastic meets, sectional basketball finals, sports clinics, and educational meetings demanding a seating capacity of 2,500.

High School Football Rules Changes, 1949

FIVE major changes were written into the high school football code for 1949, at the annual meeting of the football committee of the National Federation of State High School Athletic Associations on December 31 in Chicago.

The five rules changes, which will go into effect next season, include:

1. During a backward pass or fumble, a foul will not invoke the automatic loss of the ball.

2. If an ineligible receiver catches a pass behind or on the line of scrimmage, there will be a five-yard penalty. If he is hit by the ball but does not catch it, there will be no penalty. Previously, there was a 15-yard penalty for either infraction.

3. A kick-off going out of bounds no longer will be recalled. Instead, the ball will be awarded the defending team (a) where it goes out of bounds, or (b) 10 yards behind the restraining line, whichever is more advantageous. In most cases, this will give the defending team the ball on its own 40-yard line.

4. On a foul during a running play, the distance gained prior to the foul will be permitted. The penalty will be enforced from where the ball is declared dead.

5. If a foul is committed during a return kick, the penalty normally will be measured from the point where the return kick was made, not from the point of the original kick.

RUNNING WITH FUMBLES

Mr. H. V. Porter, secretary-treasurer of the National Federation, announced that the State of Oregon will again be utilized in 1949 as an experimental field for the study of the right to advance a fumbled ball.

In Oregon, running with fumbled balls is permitted, as in professional football.

According to a recent study, Porter asserted, running with fumbled balls does not appreciably increase the danger to players. Most coaches in Oregon favor the rule.

Copies of the high school football rules book may be purchased for 30¢ from the National Federation, 7 South Dearborn Street, Chicago 3, Illinois.

NEVCO SCOREBOARDS FOR FOOTBALL



FOR BASKETBALL

The new Nevco model

6 football board and

the model 150-W bas-

ketball board are two

leaders in the Nevco

line—built by a company that has

taken the lead in scoreboard design and con-

struction since 1934.



These are the scoreboards built today that you will want in your gym or on your field tomorrow. Remember, there is a Nevco board to fit your needs, and football orders should be placed NOW.

NEVCO ALWAYS LEADS

Write today for Bulletins Nos. 6 and 12

NEVCO SCOREBOARD CO.

GREENVILLE

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46 YEARS of EXPERIENCE

Power

QUALITY ATHLETIC WEAR

● The finest wools and satins go into Powers athletic uniforms to make styles for champions. ● ● ● **BUY POWERS** for appearance, tailoring and wear. Write for new 1948-49 fall and winter catalog.

THE POWERS MANUFACTURING CO.
WATERLOO, IOWA

Coaches' Corner

Please send all contributions to this column to Scholastic Coach, Coaches' Corner Dept., 7 East 12th St., New York 3, N. Y.

When Dick Culler, sub shortstop of the Chicago Cubs, was with the Braves in 1947, he seldom saw any action. Sibby Sisti was the regular shortstop.

One day the Braves were losing by a lop-sided score and Manager Southworth, deciding to rest Sisti, told Culler to warm up and get into the game. Then, as an after-thought, he asked one of his coaches what the score was.

"It's 9-2," his assistant informed him.

"Sit down, Dick," Southworth ordered Culler. "We ain't giving up yet."

During the 1939 Rice-LSU game, the ball flew back and forth in crazy fashion, with interceptions and completed passes galore. Sitting in the stands was the Fordham coach, Jimmy Crowley, a Rockne apostle of fundamental football—hard blocking, savage tackling, strict attention to the ground game.

A reporter nearby asked him, "What do you think of the game, Jim?"

Crowley thought for a moment. "Well," he said, "the game sure has speeded up a lot since they eliminated the center jump."

Bo McMillin, the former Indiana coach now master-minding the Detroit Lions, always has been a stout advocate of the stirring battle cry. To illustrate his point, he will rattle off a long list of classics, including "Remember the Alamo!" and "They shall not pass."

But Bo's favorite belongs to his own 1943 Hoosier team which roared into the Northwestern game bellowing: "Not one soul shall cross this line—either vertical, horizontal, or transverse!"

Ever notice how few pro football games are lost by a single point? The reason is simple—every team has a guy who specializes in kicking extra points.

Take Harvey Johnson, of the N. Y. Yankees, for instance. Last time we looked, Harvey had booted 74 extra points in a row.

Then there's Ben Agajanian, of the Los Angeles Dons. Before missing a try in 1946, Ben had plunked 115 straight between the uprights.

Alex Groza, of the Cleveland Browns, is another famous dead-eye dick. Alex led the All-American Conference in scoring in 1946 without carrying the ball once or scoring a

single touchdown. He booted 45 extra points and 13 field goals.

Pat Harder, Chicago Cardinal full-back, is the latest "Toe" to gain prominence. On three successive Sundays last October, Pat converted a total of 23 extra points.

It may be true for all we know, but . . . the British Colonial Office claims that a Nandi tribesman named Arap Kibiege tossed a spear twice the weight of a javelin, 238 feet—nearly 10 feet farther than the throw that won the Olympic event the past summer.

Somebody here is doing a lot of throwing.

The distinguished service double-cross for frustration the past football season must go to the Arnold College scouts. October 12 started out like a scout's dream. Four future opponents were playing each other just a few miles away. But, alas, the day turned into a night-mare. The scouts couldn't glean a note on the future foes' scoring plays. Both the Adelphi-New Haven St. and the Montclair-New Britain St. games wound up in scoreless ties.

When Bob Feller could really throw a hard one, a lot of batters were scared green to face him. One afternoon he hooked up with Lefty Gomez in a pitching duel. The Indians jumped

off to a one run lead and held on to it for five innings. In the sixth inning Gomez, a notoriously weak hitter, came to bat. He took a lot of time picking his bat in the hope Manager McCarthy would send in a pinch hitter.

But Marse Joe refused to take the hint and Gomez had to bat for himself. As he stepped into the batter's box against wildman Bob, he took a match from his pocket, lit it, and put it on his cap.

The umpire grinned. "Think that will help you see Feller's fast ball?"

Gomez shook his head. "No, but I just want to be sure that Feller sees me."

Elkader (Iowa) High School will probably sever relations with *Coaches' Corner* forever, after what we did to them last month. No sooner had we mentioned their 39-game winning streak in football, when along came Pottsville High and dumped them, 6-0. However, this hardly qualified as an upset. Up until November 8th, Pottsville was unbeaten, untied, unscored upon, and screaming: "Bring on Michigan!"

This wasn't the first time we put a whammy on a winning streak. Two years ago we observed that the Mephram High School wrestling team of Long Island, N. Y., had chalked up 100 wins in a row from 1937 through



For the past couple of weeks, the male auxiliary of Scholastic Coach has been gazing rapturously at the gal up there in the corner. Who she is we haven't the faintest idea. We got her in the mail. Not in the flesh, of course. Just a snapshot. It accompanied a Master Coupon sent in by Coach Ellwood Voller, of Davison (Mich.) H.S. Coach Voller evidently thinks you gotta send in box tops or something to get our free literature. It isn't so, pal. But we're beholden to you just the same. The snapshot is the nicest thing we've received in the mail since our last letter from F.D.R.—the one that started out with "Greetings!"



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A-2

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1946. The day after *Scholastic Coach* rolled off the press, Mephram was pinned by Amityville High. Mephram hasn't lost another match since.

When 150-lb. football was introduced at the U. of Illinois in 1946, the interest in it astounded everyone. About 200 candidates turned out and there was full equipment for only about two-thirds of them. The rest of the squad had to be garbed in sweat suits.

During practice one day, a player was injured. The coach ordered him to the hospital for examination and a couple of subs volunteered to accompany him. At the hospital, the physician announced it was only a minor injury, and warmly complimented the two subs on their interest and solicitude.

"Solicitude, hell," one of the players said, "we just want his equipment."

Buffalo, New York's pride and joy is the Kensington High grid team. In addition to winding up unbeaten last season, the schoolboy eleven played one of its games before a state high school record crowd of 51,000.

The 159-game winning streak chalked up by the Passaic (N. J.) High School wonder fives from 1922-26 is the gaudiest mark in the book. But the record now being accumulated by the Westerly (R. I.) High cagers, is not far behind. Coach Jim Federico's teams have won 108 of their last 109 regular season games. Included in their record are an 88-game victory streak, 5 Class B titles in a row, 5 unbeaten seasons, and 2 straight state crowns!

"We had just beaten the Smoky Hill Air Force eleven, 13-6," writes Duane G. Wilson, Sterling (Kan.) College grid coach, "and I was returning to the dressing room. Suddenly I was accosted by two SHAF players. The first one said, 'Coach, I think your boys are yellow.'"

"I answered, 'You may be right, son, but what makes you think so?' He said, 'Well, they always fell down before we could tackle them.'"

"At this point the other SHAF player chimed in with, 'For a team that fell down, they sure made a lot of yardage and licked us, too. I wouldn't mind playing with them.'"

"From then on, both boys ignored me completely and started arguing vehemently with each other. I looked at them, grinned, and continued on my merry way."

Paid advertisement in a Bedford, Ind., newspaper, dated November 17: "The party or parties who took my gun, shells, shell vest, and game bag from my car November 11, may come back and get my bird dog."

Late in November, the Frank H. Grahams of Mobile, Ala., lost their

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five-year-old fox terrier, Butch. They searched high and low but couldn't find him. On Sunday they opened their newspaper—and there was Butch's picture smack in the middle of the sports page! He was right in between the Auburn and Clemson football teams trying to get the ball away from the referee. "Butch is simply crazy about football," the Grams aver.

The Nostradamus of baseball—that's Pie Traynor, the great old Pittsburgh third baseman. In the May issue of *Huddle*, a Pittsburgh monthly, Pie predicted: "I don't think Ralph Kiner will equal his 1947 output of 51 homers ... I'm tabbing him to close with 40." A perfect bull's-eye!

Pie also picked Boston, St. Louis, and Brooklyn to finish in that order in the National League race—which they did; picked the Bucs to rise to fifth—they finished fourth; and predicted that in the American League, "The surprise may be Cleveland."

There's a man who ought to spend more time around the race tracks.

Disgusted with his charges in practice, Frank Leahy, the Grand Old Man of Notre Dame football, called them together and laid down the law:

"Look, lads, I am convinced that before we can make any further progress, we must go back to the fundamentals of the game." He reached over and picked up a ball.

"Now, this," he said, holding it up, "is a football. It . . ."

At this point a tackle interrupted: "Please, Coach, not so fast!"

SCREEN DIAMONDS

FIGURES recently released by Lew Fonseca, director of promotion for the Motion Picture Division of the American and National Baseball Leagues, attest to the enormous popularity of the motion picture as an educational device.

According to Fonseca, over 9,000,000 sports fans saw Spalding-sponsored baseball movies during the past year. In short, only a little more than twice as many people went to the ball parks last year as witnessed the Spalding films.

The *World Series* of 1947, sponsored by A. G. Spalding & Bros. and Hillerich & Bradsby Co., was seen by over 5,000,000 persons. Four other Spalding-sponsored films — *Pitching Stars*, *Batting Stars*, *Inside Baseball*, and *Circling the Bases*—accounted for the other 4,000,000 spectators.

The new movie, *World Series* of 1948, co-sponsored again by Spalding and Hillerich & Bradsby.

Reservations may be obtained by writing to American and National Leagues, Motion Picture Division, 64 E. Jackson Blvd., Chicago 4, Ill., or to the nearest of these A. G. Spalding & Bros. district offices—1137 S. Hope St., Los Angeles 15, or 161 Sixth Ave., New York 13, N. Y.

From Gym Play
to . . .

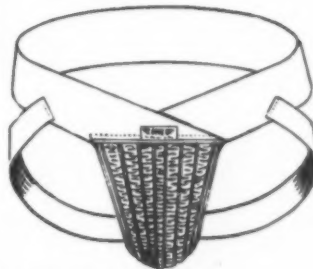
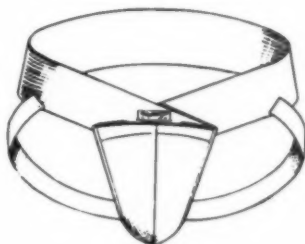
GARDEN GAME

THE WORD'S GETTING 'ROUND
—FOR ACTION
OLYMPIC CHAMPION
IS THE SUPPORTER



OLYMPIC CHAMPION Apex No. 1

Patented* V-front balanced construction.
Mesh-type elastic pouch supporter.



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The same patented* features as Apex No. 1 with a soft flannel pouch designed to hold a protective cup.

No other supporter will *do*—once you've enjoyed the snug fitting comfort of the Olympic Champion Apex No. 1! The patented* V-front, built on engineering principles, *compensates* for stress and strain of body twists and turns. Won't loosen, droop down or slip around. The pouch gives gentle, balanced uplift, stays secure and snugly fit. For conscious, held-in comfort, during action, put on an Olympic Champion—the original and *only* patented* V-type supporter.

*The Olympic Champion Apex basic construction is protected by U. S. Pat. 2,301,066—no licenses have been granted any other manufacturer.

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Quality Athletic Supporters Since 1908

Enables Every Fan to Follow the Ball and See the Down!



It spins on a bearing here indicating the Down to end-zone patrons.

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- A bronze bearing permits the upper part of the indicator to function in a gyratory manner.
- Made of masonite and aluminum; black numerals on a white field.
- Lightweight, strong, easy to handle.
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Visual Aids in Coaching

(Continued from page 16)

tiveness of the lesson. When the instructor finds, as he often will, that some part of the lesson has not been thoroughly understood a re-showing of the film will be effective.

In many states, the state university is the best source of sound and silent motion pictures. The University of Wisconsin, for example, has over 50 films on these subjects which may be rented reasonably for instructional purposes. There are also numerous other sources where schools may rent or purchase films.

For the most comprehensive listing of available sports and physical education films, refer to *Sports, Physical Education, and Recreation Film Guide*. This guide lists over 800 titles, and may be purchased from The Athletic Institute, 209 South State St., Chicago 4, Ill., for 50¢.

Film-strips or slidefilms—synonymous terms—on sports and physical education activities have not, until recently, been produced to any great extent. The slidefilm is, in many ways, the most practical means of assembling a large number of illustrations, together with their analyses, for projection purposes.

Each slidefilm contains from 30 to 60 or more individual pictures. The roll of film takes up very little storage space and is cheaper to produce than the glass slides.

The Athletic Institute, a non-profit organization sponsored and supported by athletic goods manufacturers, has embarked upon a tremendous program of slidefilm production. They have already produced slidefilms on tennis, golf, archery, and tumbling, and plan to cover over 30 different subjects in all. The subjects are chosen by poll to determine which are the most needed.

A complete package (slidefilm, projector, manual, and text booklet) may be obtained through the Institute. Thanks to a special arrangement, the projector may be purchased at a great saving to school men.

The slidefilms may also be purchased in sound units. The sound accompaniment has been made possible through the development of a sound slidefilm projector. A small record containing the teaching material is furnished with each slidefilm, and is played on the projector—synchronizing with each picture as it is thrown on the screen.

The sound may be cut off anytime the coach wishes to point out some pertinent detail or otherwise amplify the material on the record. This

is the most advanced way of using the slidefilm.

Full information on both the slidefilms and the sound film projectors may be obtained through The Athletic Institute.

The film-strips may also be produced locally with comparative ease. This possibility will be discussed later on.

An opaque projector considerably simplifies the showing of photographic materials. Flat pictures of almost any size can be projected. All the physical educator need do is collect the desired pictures, assemble them in proper order, and decide upon the comments he wishes to put across. Probably the best sources for pictures of this nature are the numerous physical education, health, and athletic periodicals.

The opaque projector differs from the motion picture or slidefilm projector in that the image is projected from an opaque surface. For example, a photograph or a postcard may be inserted in the opaque projector and the picture will be thrown on the screen.

Many schools have opaque projectors available in the science classes, and a coach who has clipped useful illustrations from magazines or who has photos which he would like to show to his athletes, may borrow the projector and throw the pictures onto a screen.

Local production of materials presents both an interesting and a profitable experience. Perhaps the best known local production technique is



Illustravox Standard Model. Produced by the Illustravox Division of the Magnavox Co., this compact sound slidefilm projector is ideal for audiences up to 375. Approximately 6" x 13" x 16" and weighing only 21 lbs., it is a paragon of convenience, portability, and ease of operation. Gives brilliant 100-watt picture projection and clear, undistorted tone. May be purchased at a handsome discount through The Athletic Institute.

the filming of athletic contests, principally football. These films are reviewed, discussed, and then filed as a permanent record.

Many colleges and some high schools have large collections of these past performances, which can be used by the coaches in preparing for future contests. This practice is growing rapidly.

The possibilities are far too numerous to mention here. Suffice it to say that given a motion picture camera, a few other pieces of equipment, a good photographer, and a staff with imagination, any school program is bound to improve.

The most practical of the locally produced physical education and coaching visual aids at present are film-strips, 2" x 2", and 3 1/4" x 4 1/4" slides. They can be made quite easily by an amateur photographer and most photo stores will do the work at a reasonable price.

For film-strips and 2" x 2" slides, a 35-mm. still camera will do a very fine job. Photographs taken with an eye toward teaching value may be converted to slides or film-strips simply by printing the negatives on specially prepared 2" x 2" emulsion-coated glass or on strip-film. These specially prepared materials may be purchased from most photo supply stores.

An example of this possibility may be cited from my own experience. Last year, *Scholastic Coach* ran an unusually fine series of pictures on kicking a football. Upon request, the editor kindly furnished the negatives. These negatives were sent to a commercial photographic laboratory where they were reproduced and bound on 2" x 2" slides at comparatively slight cost.

Slides of the 3 1/4" x 4 1/4" size present a slightly more complicated problem in that few common cameras produce negatives of that particular size. However, an enlarger may be used to reduce or enlarge the negative as required, or emulsion-coated glass of this size can be purchased.

These slides may also be made by drawing on frosted glass either with pencil or special crayon. This is an excellent medium for coaches who would like to have slides made of their plays so that they can do more talking and less chalking at the chalk talks.

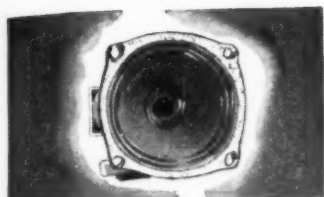
As mentioned before, the opaque projector presents probably the simplest medium of visual instruction. Frequently, however, this machine is not available in small schools. Furthermore, it requires an almost completely dark room for good results, and this factor limits it considerably for the uses discussed here.

ILLUSTRAVOX Sound Slidefilm Equipment

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Now the same famous equipment used in training millions of service men and industrial workers for nearly two decades makes teaching and coaching easier



Better Sound—only unit with famous Magnavox speaker.



Better Pictures—sharp, clear projection of all films.



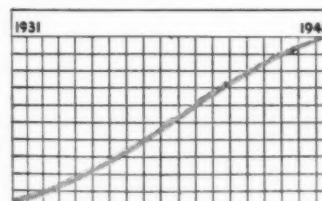
Easy Operation—takes only 3 minutes to set up Illustravox.



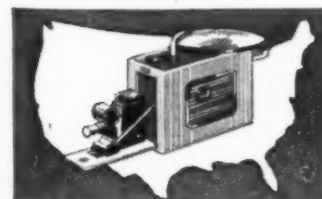
Sturdy Construction—built to stand daily school use.



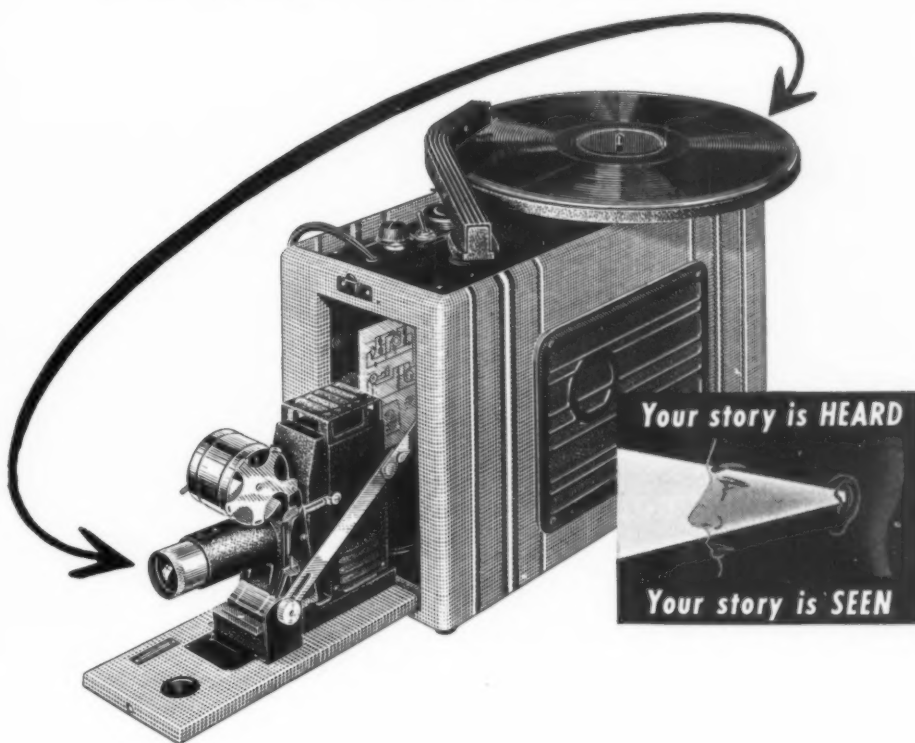
Better Portability—easy to carry, weighs only 20 lbs.!



Leadership—Illustravox is pioneer sound slidefilm equipment builder.



Reputation—Over 80% of all sound slidefilm equipment in use today is Illustravox.



Your story is **HEARD**

Your story is **SEEN**

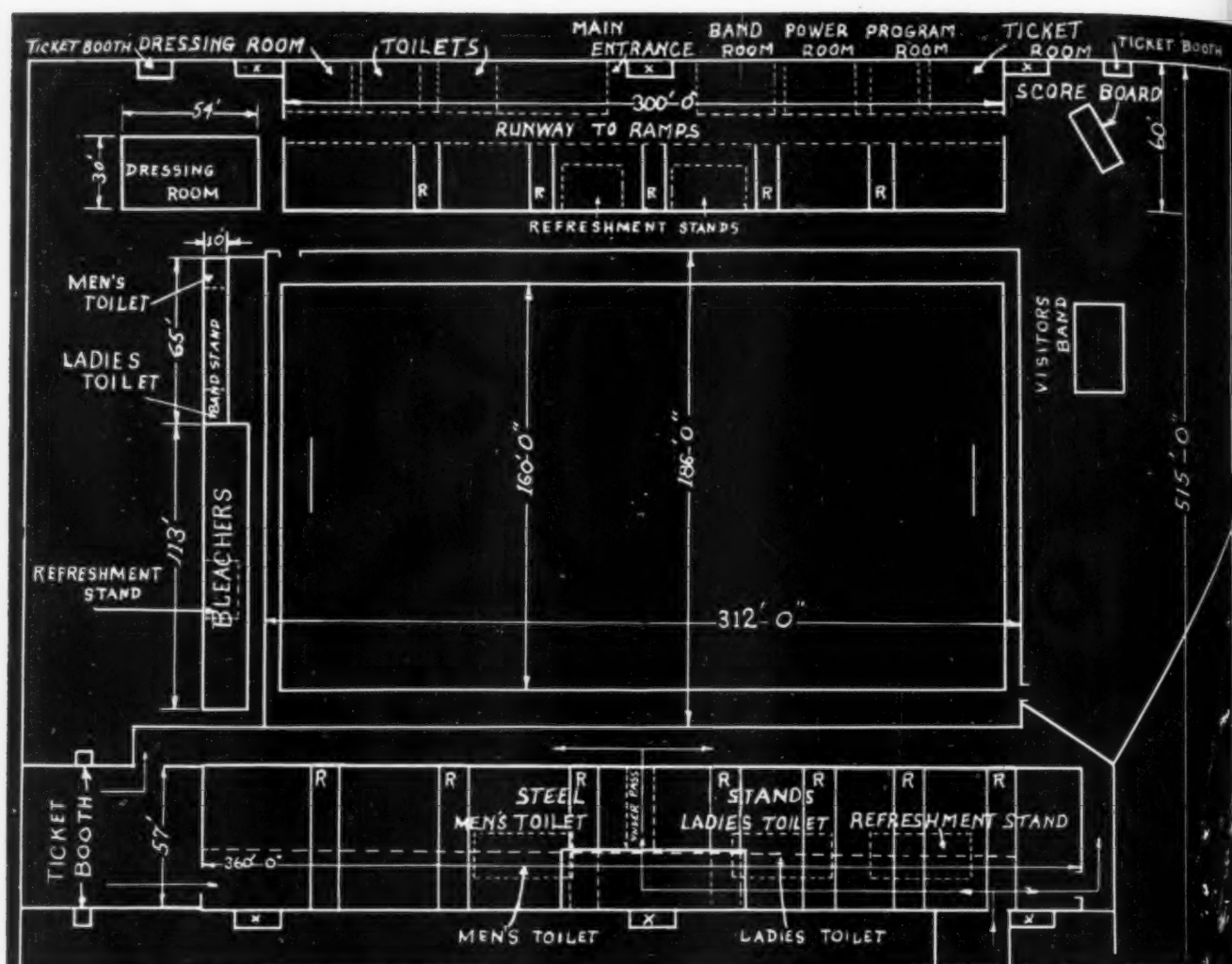
ATHLETIC Institute's Sports Training Series of sound slidefilms — plus Illustravox—offers every coach, every instructor of physical education, the tireless help of an assistant who never makes mistakes! With Illustravox, any average high school student can use the Athletic Institute films to give forceful, authoritative instruction in a wide variety of sports—freeing busy instructors for attention to other groups.

Illustravox is sturdily built, as sound slidefilm equipment must be, to withstand the rigors of constant use. Its pictures remain sharp and bright; its voice clear and true, through years of service. It presents your training message dramatically and effectively time and time again with tireless perfection.

Where To Buy Illustravox—Through special cooperation with the Athletic Institute program, Illustravox sound slidefilm equipment may be obtained by teachers, coaches and physical education instructors at attractively lower prices. For full details write to the Athletic Institute, 209 S. State Street, Chicago 4, Illinois.

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Layout of the magnificent New Castle Stadium; the x's connote the light towers and the r's indicate the ramps.

Football Sees the Light!

(Continued from page 9)

in receipts. The 1948 figures are not yet available, but they will probably surpass the 1947 figures by 20% or more, despite the fact that one less game was played.

Mark Funk, of Latrobe High School, the very able president of the Western Pennsylvania Interscholastic Athletic League, made an interesting attendance survey the past season. He computed the total number of people who turned out one week-end for the games embracing WPIAL member schools. His figures showed over 250,000 persons in attendance that weekend.

Based on a 10-game schedule, this would indicate that an attendance mark of more than 2,500,000 was reached during the 1948 season. The WPIAL takes in about 150 football-playing schools.

The pageantry which is becoming such an interesting part of night football, can hardly be passed over without mention. Gaily uniformed bands, majorettes, baton twirlers,

vocal and instrumental specialties, gymnasts and tumblers, cheerleaders and ushers, enable hundreds of non-athletic students to participate in a "football night."

This alone is a truly important feature of night football. The opportunity for our boys and girls to display their myriad talents adds to the entertainment of the spectators, with increased attendance and larger receipts, and unifies entire communities to the lasting benefit of all.

No discussion of scholastic football would be complete without mention of the tremendous impetus that it provides to sportsmanship.

If General Douglas MacArthur were to visit New Castle some fall and witness a game while seated in the press box across from the 6,000 youngsters, he would be filled with a deeper understanding and appreciation of America and its greatness.

And as the massed bands played the national anthem with all those

young people and the two football squads standing at attention, General MacArthur almost surely would recall—and with deeper conviction for its verity—that famous inscription he composed and which now stands above the entrance to South Gymnasium overlooking the athletic fields at West Point.

"Upon the field of friendly strife are sown the seeds that on other days on other fields will reap the fruits of victory."

He surely would feel that the high school gridirons of our nation were exemplifying those qualities he envisaged in the composition of that inscription.

Scoff though the cynics may, high school football *does* build character; it *does* provide a most wholesome outlet for teen-age youth; and it *does* help combat discrimination as to race, creed, and color. This form of prejudice is practically non-existent on the high school gridiron.

Such is the story of night football in Western Pennsylvania, and New Castle takes great pride as a pioneer in this movement.

Keystone

OF THE MODERN FOOTBALL PLANT

AT **NEW CASTLE, PA. ...**



PITTSBURGH-DES MOINES

Steel Deck

GRANDSTAND

With capacity for 7,200 spectators, this new Pittsburgh-Des Moines Steel Deck Grandstand assures New Castle's school system of safe, comfortable, economical outdoor seating for many years to come.

The permanence of *steel*, used for deck, columns, beams, bracing and accessory equipment, requires only occasional painting to maintain. The stand's construction is unaffected by frost, climatic change, ground movement or other factors—making a handsome, enduring investment in finer athletic facilities. *May we consult with you?*



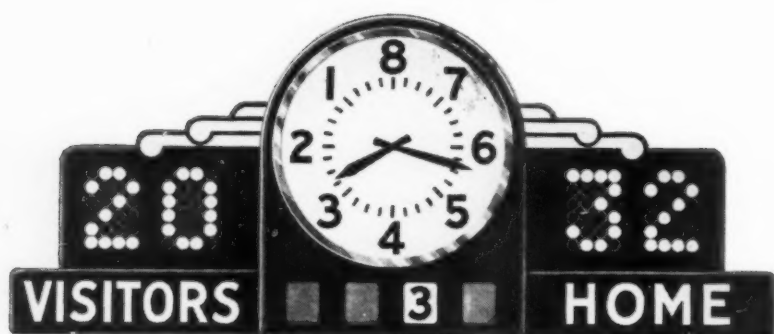
Stand is 360 feet wide and 30 rows deep, with screened underdeck area for protected storage or other purposes.



Spacious deck has wide aisles; special canopy covers press-box and top section of center rows.

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Our new models are a revelation in accuracy and design
We manufacture all types of standard and custom built
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McArthur Super-Gym and Super-Turk School towels . . .
carefully, strongly woven to the specifications of school
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available in a variety of color styles for easy school
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request. Write Geo. McArthur & Sons, Inc., Baraboo, Wisc.

McARTHUR

SCHOOL TOWELS

Basic Trampolining

(Continued from page 43)

back drop to knees; back drop to feet.

c. Back drop to front fall.

LESSON VI

1. Review seat bounce; knee bounce and combination.
 - a. Demonstrate seat bounce with half twist to feet.
 - b. Seat bounce half turn to front fall.
 - c. Demonstrate back drop with half twist to feet.
 - d. Back drop in swing time.
 - e. Knee bounce to all other fundamental skills with knee bounce between each.

LESSON VII

1. Review front fall and bounce to all other landing positions with front fall preceding each.
2. Review back drop and go to each other fundamental skill.
3. Demonstrate straight bounce with half turn to front fall.
 - a. Straight bounce with half turn to front fall in swing time.

LESSON VIII

1. Demonstrate seat-bounce with half twist to seat; seat bounce with full twist to seat bounce.
2. Back drop with half twist to front turnover to seat bounce; knee bounce to front somersault.

LESSON IX

1. Review knee bounce to front turnover to seat bounce.
 - a. Knee bounce to front somersault.
2. Back drop with half twist to feet.
3. Demonstrate back drop with half twist to back drop.

A final word of caution in regard to safety: Without proper supervision, the trampoline may be very dangerous in a gym. Adequate safety measures will obviate these hazards. At least one spotter should be placed at each side of the apparatus, and two men at each end are preferred. In addition, a safety belt should be installed above the trampoline for the teaching of the difficult stunts.

Besides being a fine activity in itself, the trampoline makes an ideal piece of practice equipment for the school gymnastics and tumbling program.

Instruction Units

(Continued from page 28)

with folding partitions and bleachers will each provide two larger teaching stations, at least one official senior high basketball court, and additional seating capacity.

Activity space and seating capacity characteristics:

Type V—two official junior high basketball courts (cross-courts) with safety zones; and, for use of the official court only, folding bleacher installations on two sides, with seating capacity of 1000.

Type VI—two official senior high basketball courts (cross-courts) with very limited sideline safety zones; and, for use of official court only, folding bleacher installations with seating capacity of 1500.

Type VII—two official senior high basketball courts (cross-courts) with official safety zones; and, for use of lengthwise official senior high basketball court, folding bleacher installations with seating capacity of 2520.

For those communities with high spectator demand which do not have a municipal sports arena, a suggested gymnasium plan with spectator emphasis is included. If movable partitions are installed throughout and acoustical partitions provided from base to top of girders, two large teaching stations, each official senior high basketball court size, and six small teaching stations may be provided.

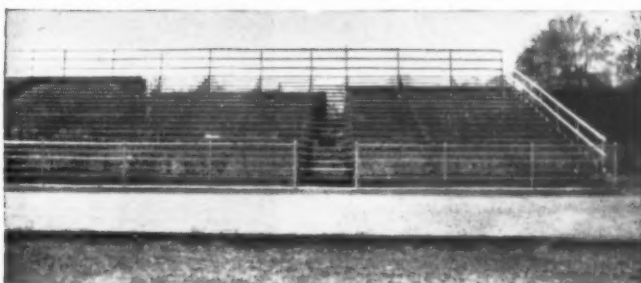
The problem in a structure of this type is to provide needed teaching stations. This must be a major concern if the school and community instruction-recreation needs are to be met. It would be wasteful and extravagant to construct an expensive gymnasium which does not provide for multiple use.

This plan embodies the use of balconies on each side for folding bleachers which can be pushed back to give added teaching stations on the balconies. The bleachers on the main floor fold back to recess in the front of the balconies.

If desired, balconies could be added to the ends to materially increase the seating. By the use of movable partitions, the unit could be made into several teaching stations, including main floor and balconies (Figure 2).

Reprinted from *A Guide for Planning Facilities for Athletics, Recreation, Physical & Health Education*, copies of which may be purchased for \$1.50 from The Athletic Institute, 209 S. State St., Chicago 4, Ill.

BLEACHER AND STADIUM materials



Will remain scarce during 1949 and it is apparent that demand will continue to exceed supply for at least another year.

We urge you to anticipate your 1949 requirements and place your orders immediately so that you may assure yourself of delivery as desired.

We offer, without obligation, the advice and suggestions of our engineering department as well as business experience gained through more than 50 years service to our customers.

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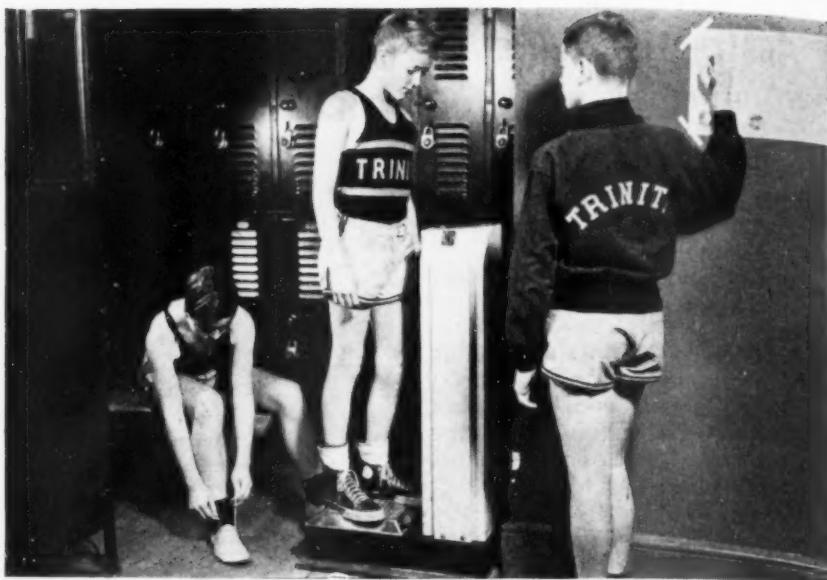


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Health Safeguards in Sports



FROM the first set of Cardinal Principles of Education, formulated 30 years ago, to the more recent code drawn up by the Educational Policies Commission, health has been stressed as the foremost objective of education.

In actual practice, however, many school activities are conducted with slight, partial, or seemingly complete disregard for the health and safety of the pupils and teachers.

In November the author focused attention on some specific violations of good health connected with the conduct of many sports.

Now we are ready to see what can be done in a practical way toward solving these problems. It must be recognized that health is such a complicated problem that the school and its staff can assume responsibility for only part of it.

The American Medical Association lists almost 40 distinct factors which influence the health and well-being of an individual. It becomes apparent, therefore, that the community, the home, and the participants must do their share in assisting the school and its staff to improve these conditions.

MEDICAL CONTROLS

The first requisite of a good program of athletics is a thorough health examination by a competent physician before each season, and

after injury or illness or sudden loss in weight.

The training schedule, including nutritional advice, should be under close supervision of a qualified physician who understands athletic problems and who is also available for advice and help during practices, as well as at all contests.

In the last analysis, no one should be permitted to participate in practices or in contests, unless the physician has given his complete approval, and this should be followed to the letter, regardless of what anyone else, either the participant, the coach, or the parents may think.

For additional safety, a mature adult, preferably not another coach, should sit on the bench during games for the specific purpose of calling attention to signs of fatigue, emotional disturbances, and the first indication of injury.

In the heat of a contest, a coach is seldom the best qualified person to do this, although he could probably handle this assignment nicely during practices.

The most important thing the school can do before the season opens, is to formulate a policy regarding the care and financial responsibility for injuries, and to carry out a plan, either through appropriation of funds or otherwise, for some form of health and hospital insurance for all participants.

The Board of Education, with the help of other competent individuals, should plan such a program, and then give complete information concerning it to all participants, their parents, and the general public.

First Aid should be administered only by individuals who by tem-

perament, intelligence, and experience and/or training are fully qualified.

EQUIPMENT CONTROLS

Pinching pennies to buy "seconds," or relegating worn out equipment to the freshmen or reserve teams, doesn't make sense. A common slogan in the business world is "the best is never too good." When the Board of Education or the athletic association thoroughly believes this, then the best possible equipment for every sport, especially football, will be purchased and maintained in good condition.

Even good equipment doesn't serve the purpose completely, unless it is fitted to the individual participant and he is taught how to make the most complete use of all the protective aids furnished him.

It is questionable whether the players should be expected to furnish some or all of their equipment; they are more likely to have the best protection when the school takes care of this entirely.

For an outdoor sport like football, carried on often in inclement weather, some form of shelter, either a dugout or a windproof booth, should be provided, along with the necessary additional wearing apparel.

This does not eliminate the necessity for warm-up periods before entering the game, of course, but it may both cut down the time required and also make the substitutes and coaches more comfortable.

To facilitate easy laundering, all mats, both tumbling and wrestling, should have mat covers which can be quickly removed and replaced as needed by clean surfaces. The frequency would naturally depend

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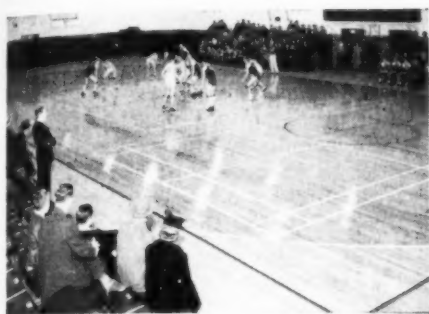
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on the amount of use and the care with which the mats are piled and handled.

Any sport such as football, which centers around contact, must produce some injuries. Such fundamental first-aid equipment as a stretcher, at least two woolen blankets, and the necessary first-aid supplies should, hence, always be available beside or under the players' bench.

Injured boys who appear to be hurt in the region of the neck or spine should never be moved under any circumstances, without the complete approval of a competent physician.

Let us hope you never have any use for the equipment suggested, but make sure it is always available.

TRAINING CONTROLS

First aid plays an important role here, and it is vital that someone, preferably a qualified adult, take over this responsibility.

As was pointed out previously, such an individual must not only know what he is doing but should realize that he is not a doctor, and that first aid is simply the "immediate and temporary care until the doctor comes." The necessary supplies should be available and adequate.

While the general training diet and activity routine can and should be planned by the coach, there should be over-all supervision by a qualified physician, particularly for those individuals who need special attention.

If the physician recommends it, salt in various forms should be given to the participants in such warm weather sports as football, baseball, and track and field. In any case, it is likely that most participants can be conditioned to go without water during practice and games.

The scientific facts concerning drinking and smoking, and the effect these may have on health and athletic excellence, should be discussed with the squad and with individuals suspected of over-indulgence.

Progressive conditioning, adjusted to individual needs, is probably of greatest importance. Not all boys thrive on hard, grueling scrimmages. Some grow stale faster than others, while many appear to be more susceptible to injury under such conditions.

As the coach gets to know his squad, and especially if he has enough coaching personnel to help

him do a more thorough educational job, individual differences can be noticed and the necessary compensations and adjustments made.

In addition, frequent checks should be made on the condition of the equipment, whether it actually fits and protects as it should, and also to make sure the participant actually is making the best use of it.

PLAYER CONTROLS

Many "teachable moments" occur in athletics, when it becomes relatively easy to instill health, character, or activity habits. A boy is particularly susceptible to such education when he wants to make the team. Hence, more can be done when he first comes out than at any other time.

A senior who has not learned how to take care of himself, is not as liable to change as a younger player. Often, the example in personal habits set by the coach and his assistants have a powerful influence.

In any case, every player should be given instruction in personal hygiene, care and use of equipment, care and use of the premises, including the shower and locker rooms, and, in general, developed into a thinking, responsible person who protects himself and others by his health and safety practices.

He must be educated to want to do the things which the coach has taught him, and which meet with social approval within his own group and the community.

CUSTODIAL CONTROLS

The custodian who understands his responsibility for keeping the school premises clean and in sanitary condition, can make a vital contribution both to athletics and health. When floors, for example, are kept in proper condition (which means the shower and locker rooms are given frequent scrubbing with hot water, soap, and antiseptic), the danger of infections such as athlete's foot may be markedly reduced.

It must be borne in mind that the coaching staff and the squad must do their share to avoid tracking in unnecessary dirt from the outside, throwing papers and trash on the floors, depositing dirty towels in corners, or violating any of the practices of "good housekeeping" so necessary in all schools.

Such cooperation can only result in better morale and help by the custodial staff, and a healthier environment for participants.

SANITARY CONTROLS

When all practice and game equipment is kept in sanitary condition by frequent cleaning or laundering, most of the problems centering around sanitation disappear.

Perhaps the greatest additional contribution which the Board of Education or the athletic association can make, is to install a towel service which assures every participant of a clean towel after every practice.

A satisfactory plan for dispensing towels (and water, if necessary) during practices and games should be devised to eliminate the all-too prevalent criticism that certain obvious health hazards are encouraged. Liquid soap in metal containers is another adjunct of good health habits.

The first step toward the elimination of athlete's foot is clean, sanitary floors—a custodial responsibility. Another important step is frequent inspection of the boys' feet by the coaching staff. Boys with visible evidence of the fungi should be warned not to walk barefoot in the locker and shower rooms until the condition is cleaned up.

Recommended as preventives is the use of drying powders, dusted on the feet and in the shoes and sox, and the use of wooden clogs, but cures should be left to a qualified physician.

Athlete's foot is a stubborn condition, and since over 50% of all adults have had it at some time or other, it requires eternal vigilance to keep it under control or to eliminate it.

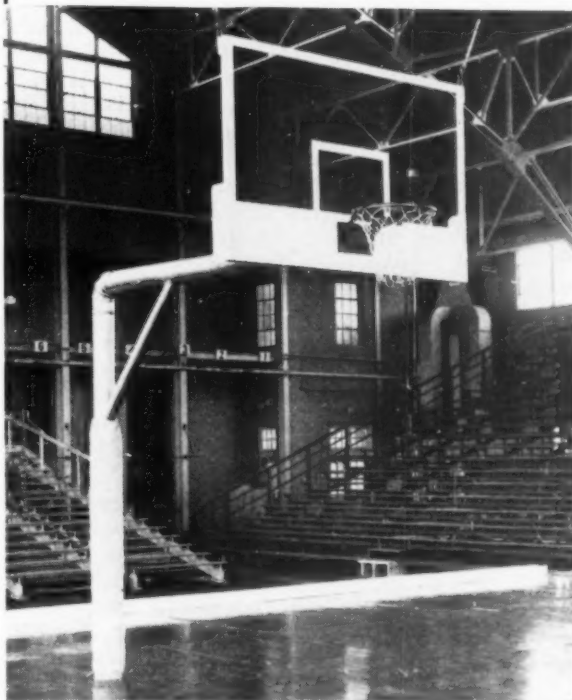
CONCLUSIONS

It must be obvious that while state associations can establish rules intended to protect the participant, and the school board can establish policies for making this functional, the health of the participant depends in the final analysis directly on the training, understanding, and philosophy of the coach.

Regardless of how handicapped he is by poor environmental controls or small budgets for equipment, he can do a great deal toward protecting his boys and, at the same time, persuade parents and, ultimately, the community and the school board that more help, both financial and otherwise, is necessary.

When athletics are conducted on the educational plane recommended in this article, the cost per participant (Concluded on page 70)

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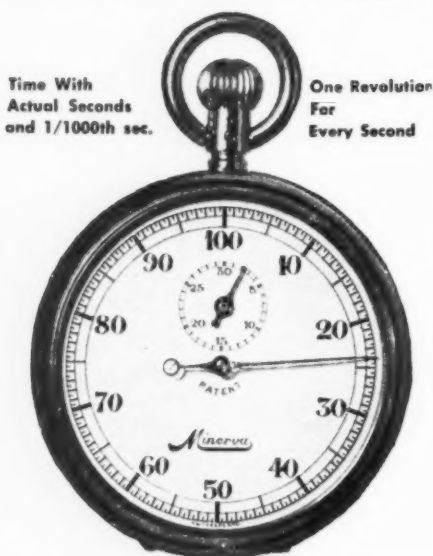
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"Here Below" (Random Harvest)

(Continued from page 5)

We counted nearly 40 bowl games this season—"classics" bedecked with such grotesqueries as Cigar, Fish, Glass, Tangerine, and Papoose.

Practically every college which ran up a first down against its jayvee got a bowl bid. Even Navy, with a glittering record of one tie in its last 15 starts, could have played in a bowl.

If the bowling parties continue to grow, we can envision a time when the bowls will outnumber the teams. All sorts of wonderful possibilities present themselves. We had a dream sequence all worked up for you, but we tossed it out the window when we came across this little gem in the *New York Star*. Written by Heywood Hale Broun, the rat, it presents a picture of foot-bowl circa 1952.

In the athletic office of Somber Teachers College, Coach Septimus Wristlet is apathetically counting helmets preparatory to his expected departure. Outside, an angry group of students are parading with banners reading "37 straight losses are enough," "All shutouts, too," and "Not even a tie, Wristlet."

Their angry cries come through the window and Wristlet sighs despondently as he begins counting the helmets again. Two seem to be missing and on his salary he can't afford to replace them.

When he is halfway through his count there is a knock at the door. He jumps, loses count, and mutters pettishly as he admits the S.T. squad. They are silent, and file in quietly for what they know may be their last meeting with their coach.

The captain of the team hands Wristlet a box.

"From the gang," he mutters, visibly affected by the occasion.

"Thanks, boy," replies the coach, as he opens the box and discovers a one-way bus ticket to the nearest railhead.

Before he can reply the phone rings. A squad member answers and in a tone of disbelief says to Wristlet, "It's for you. Long distance, Pasadena is on the phone."

The only voice in the hushed room is that of the trembling coach.

"Are you sure you have the right Wristlet? No, I don't suppose there's another Septimus Wristlet. But our record. . . . Yes, I had some tough breaks. . . . Yes, we held unbeaten Alchemy Tech to four touchdowns. . . . Well, of course, I'll have to ask the trustees, but I think they'd be glad to have us play in the Miniature Little Rose Bowl. . . . I guess you know what you're doing. . . . Good-bye."

While the amazed Wristlet ex-

plains to his players that the unavailability of 17 other colleges, due to previous commitments, has brought fame to Somber Teachers, word spreads over the campus like wildfire. (This is not hard because wildfire could cover the two-acre campus and its firetrap buildings in about two minutes.)

Outside, the sneering banners are flung aside and an impromptu student demonstration starts. All classes are called off, and the jubilant collegians carry Wristlet on their shoulders to the prexy's office where he is given a new two-year contract and the promise of a refund on his bus ticket.

ROLL out the barrel for Bennie Oosterbaan. The noblest Wolverine of them all has been picked coach-of-the-year. A voting tandem compounded of college coaches and press box quarterbacks did the picking. So it's quite authoritative.

The Michigan coach richly deserves the honor. Inheriting a severely decimated championship team from Fritz Crisler, Bennie steered the Wolverines through an unbeaten, untied season right into the nation's No. 1 ranking spot. And, remember, this was Bennie's first fling at head coaching.

We feel sure Bennie is going to wear his crown modestly. He is that kind of guy. He's been around too long to take such awards seriously. He knows full well that this business of football coaching is about as secure as a two-point lead against Kentucky.

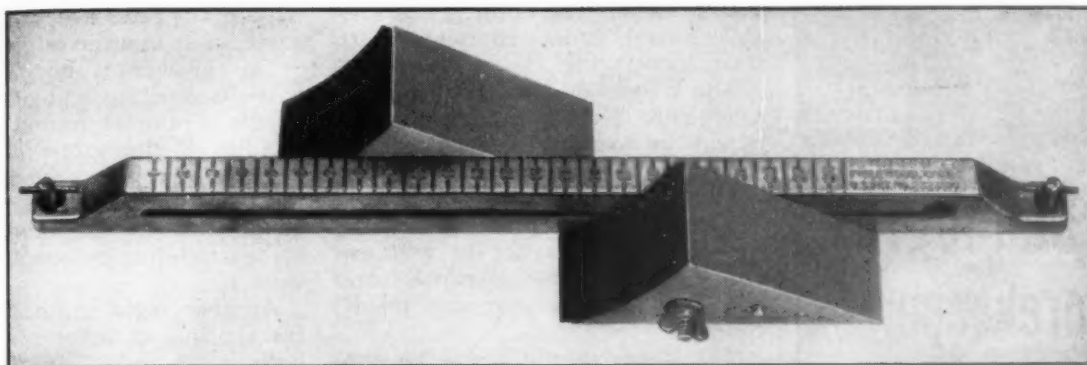
The precariousness of the job is neatly illustrated by a survey of all the coach-of-the-year winners since 1935.

1935, Lynn Waldorf, Northwestern.
1936, Dick Harlow, Harvard.
1937, Hooks Mylin, Lafayette
1938, Bill Kern, Carnegie Tech.
1939, Eddie Anderson, Iowa.
1940, Clark Shaughnessy, Stanford.
1941, Frank Leahy, Notre Dame.
1942, Bill Alexander, Georgia Tech.
1943, A. A. Stagg, Col. of Pacific.
1944, Carroll Widdoes, Ohio State.
1945, Bo McMillin, Indiana.
1946, Red Blaik, Army.
1947, Fritz Crisler, Michigan.
1948, Bennie Oosterbaan, Michigan.

As you can see, only four of the 14 master coaches are still with the schools which brought them fame. Three have retired, two have voluntarily moved on to better jobs, while five have had their throats slit by the wolves.

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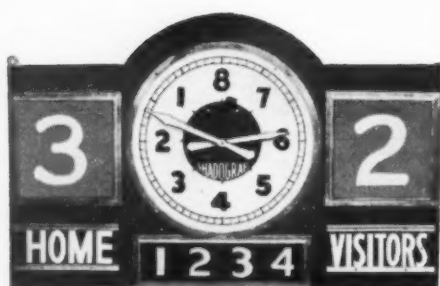
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Purchase and Care of Athletic Equipment

(Continued from page 14)

pound tackle. The other is the special school order complete with trim, inserts, etc.

The difference is of little importance here. The main point is—they cannot be exchanged. Every dealer likes to give the coach a good exchange service. But he cannot hold the bag on a set of 33 green and yellow football suits. He will exchange stock materials rapidly and graciously, because they will "move" for him.

The coach should hence be sure the special order is exactly what is wanted and should be ready to accept it upon delivery. Alterations are the only alternative, and the dealer should offer an alteration service.

The proper fit is essential. Unfortunately, the dealer can rarely carry enough samples to let each boy try on the equipment. Therefore, some substitute method must be used.

For uniforms, other than football, employ an ordinary tape measure for the waist size and add six sizes for the jersey size. For football jerseys, add ten sizes. For example, a boy wearing 32 pants will usually wear a 42 jersey. The extra four sizes are needed to accommodate the shoulder pads.

The fit of shoes and helmets is a problem. Seldom will a boy know his hat size, and his street-shoe size is not an accurate index to his athletic-shoe size.

One solution is to buy enough stock sizes to provide a sure fit for everybody. But this is hardly practical for the small school. The best answer for them is to order according to the best available information and to utilize the exchange service to obtain the best fits.

When to buy and where to buy are also prime essentials. The answer to the former may be given in a word—EARLY. The second is not so simple.

Since the coach receives the blame for poor purchases, he must select the dealer who he feels will give him what he wants. The three basic requisites of a good dealer are expert knowledge, samples, and exchange service. No school board member or pressure salesman should dominate the scene.

Now let us return to the proper care of equipment. Since inflated balls are utilized in the two major school sports—football and basketball—a word is in order on their care.

First, should the manager deflate

basketballs after every practice and game, as is so often advocated?

The answer is no. The rubber valve is delicate and every time a needle is rammed in and pulled out, the life of the valve is shortened. (The author even recommends using the bounce rather than the needle-gauge test in checking balls for proper inflation before practice sessions.)

Another factor militating against the continuous deflation-inflation of balls is the possibility of seam rupture. In the conventional stitched balls, a waxed thread is used to inner-stitch the fabric linings and leather cover. Every time the ball is deflated, the threads are subjected to abnormal wear. When the ball is again inflated, the threads are restretched. This constant flexion increases the rupture hazard.

Should the balls be stored at full air pressure? Yes in the case of the molded ball, and no in the case of the conventional seam ball. About four or five pounds of air should be removed from the latter to relieve the tension on the thread stitchings. This, however, will not allow the ball to collapse.

KENNETH L. MEYER, assistant football coach at Indiana State Teachers College, has recently emerged as a foremost authority on the subject of athletic equipment. His superb new book, *Purchase, Care and Repair of Athletic Equipment*, a review of which may be found on page 66, was used as the basic text in the first course on athletic equipment ever given—at Indiana State last summer.

The specialized care and storage of equipment is an integral part of the coach's job and should be a required course in his training. Other large and complex problems in which the coach needs training are: drying systems, manager selection and duties, marking systems, check-out systems, towel systems, laundering and cleaning processes, school laundry systems, and repair.

Drying systems and school laundry systems are, correctly interpreted, facilities—and the coach ordinarily has little to do with facilities. But these are directly related to the care of athletic equipment, and the angle of attack for the coach is—improvisation. They are treated

from this angle in the author's text. The laundering and cleaning processes are mainly background material for the coach unless he has a school laundry.

The common methods of marking athletic equipment are stamping and stenciling. The marking pen is coming into wide use. A good stencil ink is a necessary supply for the stencil system.

An excellent and permanent ink may be made by purchasing some liquid lamp black and turpentine at the hardware store. Mix to the desired consistency, then, instead of buying a \$1.25 stencil brush for the manager to leave on a shelf to "cake," buy a 15¢ paint brush at the five-and-dime store. Don't let the manager "sop" on the ink. Soak an old sock well with ink and then daub the brush on the saturated sock and apply evenly.

The repair of equipment is not a job for the coach or school, unless the institution is large enough to deem it a necessary part of the program. For one thing, the machinery required for such work is expensive—too expensive for all but, possibly, the large schools.

Second, modern equipment is complex. Even the downtown shoe repair man will refuse to do anything more to a football shoe than slap a leather patch on the upper.

Third, repairs take a lot of time.

While minor repairs doubtlessly help stall off major repairs, it is difficult to fix the difference between a minor and major repair. What is a major repair for one school may be only a minor repair for another.

The real answer lies in sending the equipment to a reconditioning firm. There are several reputable conditioners of athletic equipment. The coach should select his reconditioner with care.

One important preliminary step in preparing equipment for the reconditioner is to pair all shoes. They should be kept matched throughout issuance, use, care, and storage.

The "last" of the shoe is the width of the shoe, and plays an essential part in a proper fit. Reconditioned shoes are re-lasted and thus a uniform shoe is returned. If the shoes are not repaired and re-lasted, they should be stored with the wearer's name and re-issued to him the following season.

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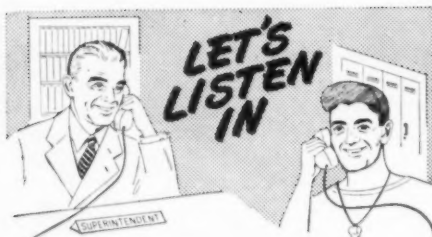
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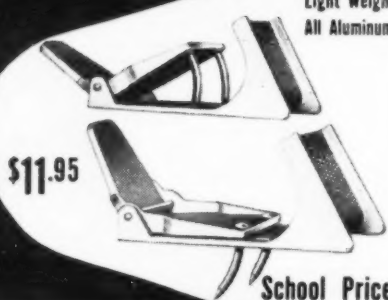
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New Books on the Sport Shelf

- **SAFETY IN SPORTS.** By Don Cash Seaton. Pp. 415. Illustrated—photographs, tables, and charts. New York: Prentice-Hall, Inc. \$4.50.

INASMUCH as the physical education and sports program accounts for more accidents and injuries than any other program in the school curriculum, and since half of these injuries are preventable, there is a definite need for a scientific approach to the problem of safety comparable to the work done in the successful accident-prevention programs of American industry.

Safety in Sports squarely meets this need. It should prove an invaluable aid to all coaches and administrators interested in this phase of safety.

In the preparation of the volume, the author, who is director of physical education at the U. of Kentucky, has carefully compiled, analyzed, and summarized the skills and controls recommended by hundreds of leading coaches and other experts in the field.

Not only has he determined the underlying causes of the various accidents—the unsafe act, the faulty skill, the equipment hazard—but he has indicated the corrective principle in each case.

The material is organized along 13 broad lines: sports and safety, injuries in sports, safety through skills, organization for safety, safety through administration, safety through leadership, the athletic plant, safety in new construction, safety in fall sports, safety in indoor winter sports, safety in outdoor winter sports, safety in spring sports, and safety in summer sports.

The book is soundly organized, nicely written, and richly illustrated. *Scholastic Coach* is proud of the fact that the author has seen fit to reprint 15 of its illustrations.

(See adv. on page 62)

- **THE Z FORMATION, Its Theory and Application.** Illustrated—diagrams. East Lansing, Mich.: Charles W. Bachman. \$3.

THE ex-Michigan St. coach offers a complete and meaty treatise on the mechanics of his famous Z formation.

He tells you how to select the players for each position, how to run the 22 basic plays with specific descriptions of each man's assignment, how to meet changing defenses, the forward pass patterns and possibilities, and exactly what this formation has to offer you.

The Z attacks with a balanced line. The right half and quarterback set up as in the single wing, but with the right half slightly deeper. The full and left half line up as in the Notre Dame formation except that they are closer together laterally and

the full is set more toward the middle of the line, thus furnishing more power over the center and to the weak side.

From the results obtained, Bachman is convinced that the Z combines the quick deception and fast hitting strength of the T, the fast flank plays with the fine passing attack of the Notre Dame system, and the trap block attack and the power of the single wing. He also believes that it offers the finest end running attack in football.

He expounds his formation clearly and thoroughly, making it exceedingly simple for the reader to pick up and use in toto.

(See adv. on page 65)

- **PURCHASE, CARE AND REPAIR OF ATHLETIC EQUIPMENT.** By Kenneth L. Meyer. Pp. 160. Illustrated—photographs and charts. St. Louis: Educational Publishers, Inc. \$3.50.

AS far as we know, this is the first book ever devoted exclusively to the handling of athletic equipment. Written by the assistant football coach of Indiana St. Teachers College, it is ideal for anybody who has anything to do with the purchase, care, and repair of equipment. In fact this book was used as the text for the first course on the subject ever given—at Indiana St. last summer.

How to buy, when to buy, what to buy, and where to buy are questions asked about all types of equipment, and this book answers them all. It also thoroughly analyzes systems for equipment inventory, marking, laundry, dry cleaning, storage, check-outs, and specialized care and repair.

Administrative phases such as athletic budgets, sources of funds, and equipment safety are thoroughly discussed, and a complete index and bibliography are given.

The information is concisely and clearly written and illustrated lavishly. We recommend the book to every school man.

- **FUNNY THING ABOUT SPORTS.** By Fred Russell. Pp. 126. Nashville, Tenn.: The McQuiddy Press. \$2.

YOU probably remember *I'll Go Quietly and I'll Try Anything Twice*, the two previous collections of laughable sports anecdotes edited by Fred Russell.

This one is in the same tradition. There's plenty old, something new, a lot that's borrowed, but very little that's blue. It's all good laughable stuff, perfect ammunition for the after-dinner coach speaker. If you

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And, being smart, as versatile people are, he takes advantage of all the help he can get in his social studies classroom—he uses SENIOR SCHOLASTIC magazine as part of his teaching program. Speaking of versatile people, we know another coach who is also a teacher. English is his field, and he uses PRACTICAL ENGLISH with his classes because it does so much work that *he* would otherwise have to do.

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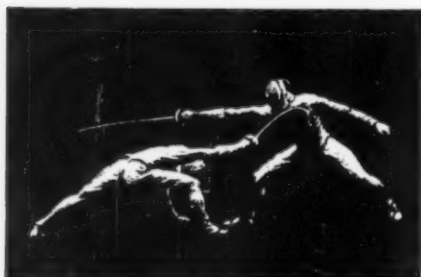
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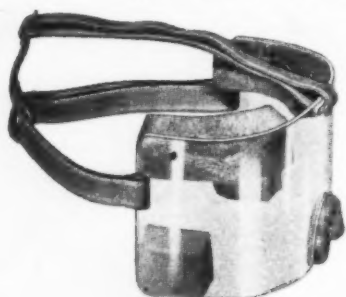
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recognize a lot of the gags and anecdotes, so what?

Russell, sports columnist on the *Nashville Banner*, has loosely organized his anecdotes into five sections: Football, baseball, golf and a few other games, racehorses and a few other animals, and uncatalogued jokes.

As far as we're concerned, Fred can always come back a fourth time.

- **PROGRESSIVE AND FUNDAMENTAL FOOTBALL.** By Harold C. Ave and F. A. Beu. Pp. 124. Illustrated—diagrams. Danville, Ill.: School-Aid Co. \$2.

AVE and Beu, a couple of names that come in the real economy-sized package, are the football coach and president, respectively, of Western Illinois State College.

Into the 124 pages of their book, they have compounded a wealth of sound fundamental football. Very clearly and concisely, they have presented the elements of pre-season preparation, blocking, line play, kicking, passing, pass defense, team defense, modern formations and plays, signal systems, game tactics, and summary of teaching and coaching.

There isn't a wasted word or line. It is all easy-to-read, easy-to-follow stuff, a tidy package for the coach and player.

- **SHORT CUTS TO FINDING AND ORGANIZING RESEARCH PROBLEMS in Health, Physical Education and Recreation Through the Use of Library Materials.** By George M. Gloss. Pp. 23. Washington, D. C.: George M. Gloss. \$1.

DR. GEORGE M. GLOSS, professor of graduate work at the U. of Maryland, has compiled this mimeographed outline as a guide to both graduate and undergraduate students in research undertakings.

The organizational plan is logically developed and collateral readings and check-list techniques are extensively utilized. The headings for the various sections include: Finding research problems through library materials, over view of contents, general aim, related educational researches, and administrative details.

—Dr. Carl Troester

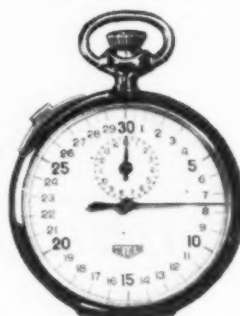
- **ATHLETIC INJURIES: Prevention, Diagnoses and Treatment (Third Edition).** By Dr. Augustus Thorndike. Pp. 243. Illustrated—photographs and drawings. Philadelphia: Lea & Febiger. \$3.75.

THIS solid, practical text has been given a thorough overhauling to bring it up to date. Many sections have been completely rewritten and new stress has been placed on the application of many recent advances in the physiology of exercise. An entirely new section on physical fitness testing has been added, as well as several new photographs and drawings.

The first part of the book considers the anatomy and physiology of the human body as they relate to physical exercise. It points out the results and

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importance of training in preventing injuries and gives detailed procedures for such prevention.

The second and third parts deal with specific injuries incidental to athletics. The diagnosis and treatment are covered fully and supplemented with numerous tables and illustrations. Every part of the body is treated comprehensively.

Inasmuch as Dr. Thorndike is chief surgeon to the department of hygiene and the athletic association at Harvard, as well as associate in surgery at the Harvard Medical School, he knows his subject cold and his book is a sound investment for trainers, coaches, and school physicians.

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THE GEORGETOWN HOYAS. By Morris A. Bealle. The story of the Georgetown U. football team from 1875 through 1947. Liberally illustrated with pictures of the great Hoya stars, the scores of all games, series records and scores, yells and songs. (Washington, D. C.: Columbia Publishing Co. \$3.50.)

THE WASHINGTON SENATORS. By Morris A. Bealle. The story of the famous American League ball club from 1867 through 1946, replete with pictures of its all-time greats, batting leaders, pitching leaders, and complete players' index. (Washington, D. C.: Columbia Publishing Co. \$3.)

GIANT BOOK OF SPORTS. Edited by Gene Schoor. All the essential techniques and records of six major sports—baseball, football, basketball, boxing, tennis, and bowling. Nicely illustrated with wash drawings. (Garden City, N. Y.: Garden City Publishing Co. \$2.50.)

Indoor Maintenance

(Continued from page 34)

cessfully eliminated by the use of 1 part in a million of copper sulphate.

The water may be kept reasonably clean by insisting on a shower bath with soap before using the pool, eliminating bathing suits, requiring a compulsory medical examination of all potential swimmers, and banning from the area adjacent the pool, all who wear street shoes. Vacuum cleaners may be utilized to remove sediment from the floor of the pool.

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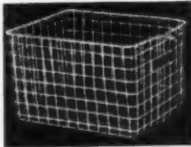
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Health Safeguards

(Continued from page 61)

ticipant per sport will be substan-
tially increased.

Individual attention in any area is expensive, but in athletics, where additional hazards exist, the cost is expected to be greater. However, since the school is organized and conducted primarily for the individual, and since health is the first objective, cost should be no obsta-
cle.

In a few schools, it may be neces-
sary to eliminate a sport that must
be conducted under impossible
conditions. But this course is only
advised when the necessary funds
cannot be secured.

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be necessary to "sell" the general
public and especially the Board of
Education, on the necessity of mak-
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the conduct of sports.

No educational project can or
should be expected to be self-sup-
porting. When the sport no longer
must depend entirely on gate re-
ceipts to determine both its con-
tinued existence or its expansion,
then progress in the right direction
will have occurred. And when the
philosophy to "win at all cost costs
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accepted by all persons concerned,
then athletics may become truly
educational.

This involves a complete under-
standing of the complex problems
involved and a willingness to do
something toward solving them, no
matter how long it takes or what
it may cost.

The health of the participant is
of more importance than either the
game, the outcome, or the wishes of
the spectators.

Competition, and athletics espe-
cially, is vital to the American
people, and the steady expansion of
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most encouraging trend.

Where athletics are in proper
balance with the other departments
of the school—and this is true in
most schools—they are probably
the finest morale builder and the
greatest single unifying force that
an educational institution has.

This is the second of three articles relating
to the health of athletes, by C. O. Jackson,
associate professor of physical education at the
U. of Illinois. The first installment in November
stressed the many health hazards now existing
in interscholastic activities and pointed out that
the emphasis on catering to the spectators and
their demands for winning, is one of the fac-
tors contributing to the situation. The present
article presents some practical suggestions for
overcoming many of these hazards.

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BRADLEY M. LAYBURN (65)
☐ Information on Gym and
Playground Apparatus,
Portable Bleachers,
Electric Scoreboards

LEAVITT CORP. (57)
☐ Information on Bleachers
and Grandstands

SEE PAGE 72 FOR OTHER LISTINGS AND FORM FOR SIGNATURE

MASTER COUPON

(See page 71 for other listings)
(Numbers in parentheses denote page
on which advertisement may be found)

LINEN THREAD

- (Inside Front Cover)
Full information on
☐ Tennis Nets ☐ Goal Nets
☐ Protection Nets
☐ Gym Dividing Nets
☐ Baseball Batting Cage Nets

MAGNAVOX CO. (53)

- ☐ Information on Sound Slidefilm Projector

MARBA, INC. (34)

- ☐ Information on Athletic Equipment Reconditioning

FRED MEDART (36)

- ☐ Book, "Physical Training, Practical Suggestions for the Instructor"
☐ Catalog on Telescopic Gym Seats, Steel Lockers
☐ Information, Acromat-Trampolin
☐ Catalog on Basketball Backstops, Scoreboards

McARTHUR & SONS (56)

- ☐ School Towel Plan

McLAUGHLIN-MILLARD

(Inside Back Cover)

- ☐ Catalog on Adirondack Baseball Bats

MILLER CO. (66)

- ☐ Information on Starting Block

MUTUAL LIFE (32)

- ☐ Booklet

NADEN & SONS (66)

- ☐ Catalog on Electric Scoreboards and Timers

NATIONAL SPORTS (60)

- ☐ Catalogs: Bases, Mats, Rings, Training Bags, Wall Pads, Pad Covers

NEVCO SCOREBOARD (47)

- ☐ Bulletins on Electric Scoreboards

NISSEN TRAMPOLINE (39)

- ☐ Literature
☐ Booklet, "Tips on Trampolining"

NURRE COS. (61)

- ☐ Literature on Plate Glass Basketball Banks

O-C MFG. (51)

- ☐ Information on V-Front Apex Supporters

OCEAN POOL (46-65)

- ☐ Information on Trunks, Swim Fins, Kick Boards, Nose Clips, Caps, Klogs

OLIVER BROS. (4)

- ☐ Details on Washable Baseball Uniforms

OREGON WORSTED (70)

- ☐ Information on Flying Fleece Recreation Balls

PHARMA-CRAFT (46)

- ☐ Information on Ting for Athlete's Foot Control

PITTSBURGH-DES MOINES (55)

- ☐ Catalog on Steel Grandstands

POWERS MFG. (47)

- ☐ Winter Catalog on Athletic Wear

RAWLINGS MFG. (3)

- ☐ Catalog

REVERE ELECTRIC (31)

- ☐ Sports Floodlighting Bulletin
☐ Catalog

JOHN T. RIDDELL (41)

- ☐ Information on Suspension Helmets, Shoes, Balls, Track Supplies

SCHALL'S DOWN INDICATOR (51)

- ☐ Information on New Football Device

SEAMLESS RUBBER (43)

- ☐ Information on Sav-A-Leg Home Plate, Athletic Tape, Kanteek Bladders
☐ Information on New Line of Athletic Balls
☐ Booklet on Pro-Cap Athletic Tape

SHADOGRAF MFG. (64)

- ☐ Information on New Electric Scorekeeper

SKINNER & SONS (17)

- ☐ Information on Skinner Fabrics

SOUTHERN PRECISION (68)

- ☐ Catalog of Timers and Chronographs

SPALDING & BROS. (1)

- ☐ Catalog
☐ Sports Show Book
(See adv. for free rental of World Series Film)

SULLY PRESS (50)

- ☐ Information on Competitors' Numbers and Letters for Track Meets

TAYLOR MFG. (68-70)

- ☐ Information on Basketball Bags and Wrestling Mat Covers

UNITED LABS. (57)

- ☐ Bulletin on Stadium Repair

WESTINGHOUSE ELECT. (29)

- ☐ Sports Floodlighting Planning Book

WILLIAMS IRON (59)

- ☐ Grandstand Catalog

WILSON SPORTING (6)

- ☐ Catalog

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NAME _____ POSITION _____

(Principal, coach, athletic director, physical director)

SCHOOL _____ ENROLLMENT _____

CITY _____ STATE _____

No coupon honored unless position is stated

January, 1949